Republic of Montenegro
GOVERNMENT OF THE REPUBLIC OF MONTENEGRO
Ministry of Agriculture, Forestry and Water Management

# MONTENEGRO'S AGRICULTURE AND EUROPEAN UNION
# Agriculture and Rural Development Strategy

## Final report of the EU funded project

*Agriculture and Rural Development Strategy of Montenegro*
*An EU funded project, managed by the European Agency for Reconstruction*

Podgorica, 17. July 2006

Elaboration of the document entitled: "MONTENEGRO'S AGRICULTURE AND EUROPEAN UNION – Agriculture and Rural Development Strategy" is a project realized in cooperation between the Ministry of Agriculture, Forestry and Water Management of Montenegro and the European Agency for Reconstruction..

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# INTRODUCTORY REMARKS

With the intention of preparing a platform for future integration processes, which are very comprehensive and demanding, the Ministry of Agriculture, Forestry and Water Management of the Republic of Montenegro in cooperation with the European Agency for Reconstruction has initiated a project of elaboration of the new strategy for its agriculture and rural areas. Considering the specificity of Montenegrin agriculture and developmental prospects this strategic document is entitled: **"MONTENEGRO'S AGRICULTURE AND THE EUROPEAN UNION** - Agriculture and rural development Strategy ". The Strategy consists of three documents:

A. The current agricultural situation and developmental prospects,

B. Platform, objectives and pillars of the reform,

C. Concept of agricultural policy measures and budgetary plan for 2007-2013.

In the frame of the overall project, the first document **„The current agricultural situation and developmental prospects"** examines the significance of agriculture within the national economy, indicating the production and structural resources. The document further elaborates other important aspects: main characteristics of rural areas, relation between agriculture and the environment, agricultural institutions, foreign trade, level of consumption of agricultural products, and various aspects of agricultural policy. An analysis of the competitiveness of major agricultural products is provided for the first time, as well as a rough estimate of the aggregate support to agriculture. On the basis of the analysis and estimates on competitiveness, an expert assessment on the developmental prospective in major sectors was carried out.

The document "**Platform, objectives and pillars of the reform"** has a central place in the Strategy since it opens new guidelines in Montenegro's agriculture and rural areas. Based on the sector analysis from the first document, as well as international frame and requirements, the Platform proposes a concept of sustainable agriculture, with respect to multifunctional role of agriculture. The objectives and basic pillars of future agricultural policy are determined. Legislative harmonisation and institutions reform are specified. The Strategy aims to contribute to the modernization of public administration in process of adopting of a European model of agriculture.

The document entitled: **"Concept of agricultural policy measures and budgetary plan 2007-2013"**, represents a logical sequel of the previous two documents. The purpose of this document is to propose operative plan of agricultural policy measures, with the need to adjust them to Common Agricultural Policy (CAP) principles. A description of measures is followed by a budgetary plan for 2007-2013. An overview of the most important projects, proposed by the Strategy is given at the end of document.

Two surveys were conducted in the frame of the project, in order to achieve better insight to the current state of the available resources: one in agriculture and the other in the agro-food industry. The main results of the surveys are an integral part of the Document A, while the findings of these analyses supplement the basic documents and are annexed to them (Annex I and Annex II).

Bearing in mind the significance and the extent of demands put on agriculture during the EU accession processes, their overview is given as Annex 3.

The basic documents of the Strategy are drafted and elaborated so that each of them represents a ring fenced unit, and may be individually used. At the same time, they are an integral part of the unique document of the Strategy. Bearing in mind this dual-purpose, the authors have tried to avoid, as much as possible, certain duplications. Were it was demed necessary some of the basic standpoints of future reforms are repeated.

The Strategy is a result of an intensive one year's work of the combined team: experts from Slovenia engaged by the European Agency for Reconstruction, and a domestic team of the Ministry.

We would like to take the opportunity to express our thanks to the numerous institutions and individuals who have directly or indirectly help to complete this project.

During public debates, workshops and numerous consultations, valuable advice has been given, along with suggestions and positive criticisms, which has improved the quality of the Strategy. We are also grateful to the agricultural producers and agro-food companies being involved in field surveys. Significant contribution in surveying was made by the Animal Breeding Service and Extension Service in Crop production.

We hope that the Strategy, besides the purpose of representing a platform for integration of Montenegro to the EU, will be a resource of useful information to food producers, expert and scientific services, public institutions, representatives of international organizations, potential investors and international donors, especially European Union institutions and organisations.

Editors

# EXECUTIVE SUMMARY

## *The current agricultural situation and developmental prospects*

### *Significant role of agriculture*

1. Food production and agriculture still play an important role in the economic development of Montenegro. The share of agriculture, hunting and forestry in total GDP of Montenegro, according to official statistical data, amounts to 11,3% (2004).

2. Agricultural area in Montenegro covers 38% of total surface area (2003). Agricultural land resources, with a total area of 518.067 ha or about 0,84 ha per capita, represent an important economic attribute. According to this indicator Montenegro is amongst the leading countries in Europe. However, in the structure of the agricultural land, extensive grassland and pastures, which are not adequately used, prevail. Arable land, orchards and vineyards occupy only 58.262 ha or 12% of total agricultural area.

3. The political and economic changes in Montenegro in the late 1980s and at the beginning of 1990s, according to statistical data did not result in a fall in production, a characteristic of several other countries going through transition processes. In the period 1999-2003 growth in total agricultural production was achieved, on average annual rate of +2,8%.

### *Unexploited potentials result in Montenegro being a net importer of food*

4. Montenegro does not fully use its production potential. Subsistence production and production for direct sales on green markets prevails. Commercial market production, except from wine and partly milk sector, is at the very beginning. In crop production, the production of wine (the only important export product) is commercially significant, as well as vegetable production (tradition and favourable conditions), and partially potatoes (only for domestic consumption). The production of cereals is negligible.

5. A significant part of the Montenegrin agricultural production value is generated from livestock production, within which the most significant products are cow, sheep and goat's milk and the production of lamb with traditional breeds. In beef meat production the most important category are calves. In the last few years, poultry production is being commercialized, while the production of pig meat is used mostly for self-subsistence. The only export potential for now is found in lamb production.

6. Montenegro is a net importer of agro-food products. Total trade in agro-food products grows continuously. Along with the increase in imports and exports the deficit grows as well. The major export products are wine and tobacco. Export-import coverage amounts to 28%.

### *Negative demographic movements in rural areas and low productivity in agriculture*

7. According to the latest available data for 2001, the share of population living in rural areas amounts to 38%. A negative balance of migration (about 1% in the period 1991-2001) and a growing age index, from 33 (1991) to 58 (2001) implies moderate depopulation of the rural areas, and parallel demographic ageing. Agriculture plays the role of social buffer for the most sensitive part of the population. The most commonly endangered part of the population are old age households, that mostly practice self-subsistence production, and a part of the working population directly influenced by transition, in sense that they have lost their jobs in the industrial sector.

8. Montenegrin agriculture is characterised by relatively low labour productivity. The situation is a consequence of different factors, one of them being the low technical level of agricultural production, which increases the need of physical labour. The production is concentrated on family farms. Most of the state-owned enterprises ceased to produce in the

period of transition. There is no official data on the size of the households. The average size of the agricultural holding is estimated to be lower than 5 ha of agricultural area.

***Unpolluted resources, richness in biodiversity and genetic resources***

9. Regarding the level of intensity of production, agriculture cannot be considered a significant polluter of the environment. The Montenegrin area is not subject to large-scale air, water and land pollution. Besides a few industrial complexes, located in five city areas, there are still areas untouched by civilization, which indicates that the large part of Montenegro is ecologically clean. Montenegro is rich in plant and animal biodiversity. Taking in consideration the size of Montenegro, it has an enormous wealth in genetic resources of agricultural plants and domestic animals.

***Underdeveloped agro-food industry***

10. One of the structural characteristics of Montenegrin food production is the higher share of agriculture in gross domestic product, than of the food processing sector. This indicates a low level of finalization of agricultural products, a significant share of subsistence of the rural population with food, as well as emphasized sales of agro-food products through unregistered trade channels.

11. Montenegrin agro-food industry has unfavourable size structure of enterprises. It is found that about 70% of enterprises in the sector employ less than 15 workers, and only four enterprises more than 250. Such size structure of enterprises and unfavourable technical level influence competitiveness of agro-food industry negatively. The problem, mainly caused by inadequate technical equipment of agro-food operations in Montenegro, is that the hygienic and sanitary conditions do not comply with international standards.

***Transformation of agricultural policy***

12. Before the 1990s, the emphasis on state policy was the social sector, the administrative setup of prices and market protection. In political turbulences the government was still in control of many sectors through price policy and control of imports. Only during the 1999 and 2000 changes were made, and complete liberalization was introduced. Since the middle of 2001 all prices are formed by the market. Agricultural policy after 1999 was again production-oriented, especially in the development of less propulsive sectors. Programs of institutional support were quite important as well, predominately in the field of food safety. An important role in the last years has been played by international donations.

13. Budgetary support for agriculture has a growing tendency but it is slower than the growth of the total budget in Montenegro. The agricultural budget structure, for the period 2002-2004, indicates that only market-price policy measures had continuous growth, while with all other groups (rural development and general services in agriculture), budget support varied from year to year. The volatility of basic groups of measures indicates that significant part of them is still not settled. Only some of them are partly comparable with the measures of CAP of EU, and has evidently favourable structure, in accordance with the World Trade Organization demands.

***Relatively high prices of agricultural products***

14. Comparison of producer prices in Montenegro and some European countries show that agro-food products in Montenegro can be ranked in three groups. The first group includes agricultural commodities with prices well above the EU level and in that way less competitive. This goes for potato, milk and dairy products, fruits, poultry and pig meat. The reason for higher prices can be found in lover production intensity and less developed market infrastructures, and for some products in the level of border protection, justified with the need for development support. The second group includes commodities with prices which are relatively low and show higher competitiveness. This group includes tobacco and lambs. The third group includes products placed somewhere between these two groups according to competitiveness or where it is difficult to determine the level of prices: vegetables, calves, eggs. The general estimate is that the prices in agriculture are relatively high and as a consequence agriculture has a rather low level of competitiveness.

***Insufficient budgetary support***

15. According to all criteria, budgetary support for agriculture in Montenegro is relatively low compared to the EU or candidate countries. In the EU-25 budgetary support for agriculture per capita amounts to €130. New member states, before the accession, had from €20 (Poland) to more then €80 per capita (Slovenia). Montenegrin agriculture currently operates at the support level of €12 per capita.

***The total level of (price and budgetary) support to agriculture is not low***

16. Total support to producers roughly estimated according to OECD methodology, expressed as a share of market-price and budgetary support in the total income of agricultural producers (%PSE) for Montenegro, amounts to 28%, which makes it a country with a mediate level of support to agriculture. This support is mostly (more than 95%) a result of higher prices (market-price support) and certainly not a result of budgetary support.

***There are weaknesses in agriculture, but opportunities as well***

17. SWOT analysis indicates that in Montenegrin agriculture there are weaknesses that if the threats are realized, may endanger the future development of agriculture for a long period of time. All future processes of integration and opening of markets will lead to a change in market channels and additional pressures will be put on prices. Economic conditions, structural deficits, low technological and capital efficiency represent an additional challenge for Montenegrin agriculture and agro-food industry. The more the potentials of national agriculture are used (development of traditional products, strengthening of production for local market, marketing of products through tourist consumption, rapid return to former export markets, rapid transfer of knowledge from research and extension service to producers), the more threats will be neutralised and bear less consequences for Montenegrin agriculture.

***Opportunities for further growth***

18. Scenario analyses of agricultural production prospects have shown that there are real technological potentials for significant increase in production in the next ten years. The scenario based on the assumption that modernization of agriculture is one of the national priorities indicates that with the strengthening of market infrastructure it is realistic to expect increase in agricultural production of about 15 to 30% (potato, fruit, wine, milk, all kinds of meat), and in some sectors even more (vegetables, olives, tobacco, cereals). However, to achieve this optimistic scenario a few assumptions must be fulfilled: favourable economic situation, strengthening of institutional and financial support to further development, successful implementation of international integration with WTO and EU. Scenario analysis also comprises a possible pessimistic scenario, if these assumptions are not fulfilled. This would entail a fall in production, a halting of development and the marginalization of agriculture, which would bear negative consequences in competitive surroundings and would also negatively influence development of rural areas.

## *Platform, objectives and pillars of the reform*

***Reforms are inevitable***

19. Reforms in agriculture are inevitable, especially with respect of the forthcoming integration processes (membership in WTO and accession to EU). It is necessary to reach a decision in this regard on the agricultural policy concept and to offer a clear vision of agricultural development.

***Concept of sustainable agriculture***

20. Neither the protectionist nor liberal concept of agricultural policy provides effective long term solution of the existing problems. This is why Strategy proposes the concept of sustainable agriculture as a logical and conceptual elaboration of decisions already accepted as regards country economic and political development. Its primary objective is to define the multifunctional role of agriculture and modernization of the state administration for the purpose of the realization of the strategic commitment of sustainable development and

integration of Montenegro into the international community, and take on the European model and conception of agriculture.

***Agricultural policy objectives***

21. Solving of developmental, structural and general problems in agriculture and rural areas is possible through the realization of the following main objectives of the agricultural policy:

1. Management of resources in a long-term sustainable manner, together with promotion of agriculture that is, to the greatest extent, coordinated with environmental protection (*sustainable resource management*);
2. Ensuring stable and acceptable supply of food in terms of quality and price (*food safety*);
3. Ensuring an adequate standard of living for rural population and a comprehensive rural development together with preservation of traditional values of rural areas (*adequate standard of living and rural development*);
4. Lasting increase in competitiveness of food producers in the local and foreign market (*increase in competitiveness*).

A balanced implementation of the four objectives mentioned above would lead to the fifth, general objective: to ensure food security. The main objectives have been elaborated through the definition of operative objectives, which are required for easier understanding of the concept and definition of measures.

***Three pillars of the reform***

22. The Strategy is based on three pillars: reforms of agricultural policy, harmonization of legislation with the requirements of European integration and institutional capacity building.

***Reform of agricultural policy***

23. Agricultural policy reform covers three main fields: market-price policy; rural development policy; and general services for agriculture. The most important market-price policy measures, i.e. import tariffs and measures for market stabilisation will be in line with possibilities in the frame of WTO and EU integration processes. It is necessary to provide stable support to agricultural producers through direct payments per hectare and/or head, with the objective of keeping the production resources in function and harmonisation of measures with the CAP principles.

24. The key element in reform of agricultural policy is the gradual building of a system of integrated rural development policy that shall be harmonized with the EU principles. The policy is based on the three key areas of rural development: a) increase in competitiveness through various forms of support to agriculture and the processing industry; b) better management of land and environmental resources; c) broader rural development policy which provide the support (together with other programs of the Government of Montenegro) for diversification of activities and better living for rural population.

25. Along with market-price and rural development policy, an efficient system of public services that shall be able to respond to the requirements of European integration process shall be established. Technological development of agriculture should be supported through gradual strengthening of financial support and development of system of public services funding through tenders, programs and monitoring of program implementation. Changes in tax and social policy are necessary as well.

***Legislative Harmonization***

26. Realization of new agricultural policy imposes the need for the continuation and acceleration of legislative adaptations. The basis shall be the EU *Acquis communitaire,* and permanent training of the administration for implementation of this very demanding legislation. The most important laws are: *Law on agriculture and rural development*, *Law on*

*agricultural land, Law on food safety, Law on livestock breeding, Law on animal feed, and Law on cooperatives.*

***Institutional capacity building***

27. Reforms of agricultural policy and the process of EU integration impose the need for reorganization of the Ministry itself. Reform of the Ministry shall include reorganization of organizational units and introduction of new functions (analyses, payment agency, gradual establishing of a multi-purpose central information system). The Strategy requires the reforms of other institutions in agriculture as well.

***Stronger budgetary support***

28. Further development of agriculture requires more budgetary support. The presumed period of time before full membership of the EU has to be used not only for the reforms proposed, but for quicker development of national agricultural production as well. Practice shows that the preparatory period has to be used for strengthening the agriculture so that following accession it would be able to be competitive in the much larger market. A new, stable and consistent concept of agricultural policy and adjusted budgetary support is one of the prerequisites for changes.

## *Concept of agricultural policy measures and budgetary plan 2007-2013*

***Estimates of the potential budget from the EU funds***

29. A significant step in the agricultural policy planning is the estimate on pre-accession and accession potential support provided by the Common Agricultural Policy of the European Union. It can be anticipated that less EU public financial resources will be at disposal for the candidate and associated countries in the future. This is why a pessimistic estimate during the planning of the policy is taken, somewhere around €4 million.

30. Due to the standing CAP reforms and undefined frame of the following enlargement of the EU, it is not possible to determine what policy and method of defining direct payments will be used for Western Balkan countries (and Turkey). According to current principles, it is rational to take 25% of current payment to the EU members as a starting point. Due to the specific features of Montenegrin agriculture, where the production capacity in sectors for which EU provides direct payments is low, Montenegro could count on €8 million during the first years of the accession period. However, this amount could be supplemented with domestic funds.

31. As far as the rural development policy is concerned, according to current conditions, it is possible to count on higher support levels than for the market-price policy. Different variants were used, and based on experience of previous enlargements, it was estimated that the level of support could range somewhere between €20 to 50 million a year. A pessimistic estimate about the total amount of support for Montenegro at the level of €30 million was taken. The real amount will depend on what funds EU will reserve for the next enlargement in which Montenegro would participate, as well as reforms in the rural policy itself.

***EU policy as an anchor for gradual growth of the budget***

32. Agricultural policy of Montenegro should follow two operative goals until accession: implementation of the reform concept of agricultural policy and increase of the absorption capacity for adjustment to CAP. As far as budget planning is concerned, these two aims must be accomplished with Montenegro raising the level of domestic support to a level that enables it to normally absorb EU support after the accession.

33. In budgetary support plans two phases of pre-accession period are provisionally taken. First phase (2007-2009) means introduction and implementation of the agricultural policy reforms where national budget should be raised at least 50%, including expected donations. The second phase is related to the period between 2010 and 2012, when Montenegro could gain the status of candidate country as well as measures of pre-accession

support. In this phase the budget should be raised by 50% compared to the previous one. This would mean that the increase should be at least 2,2 times compared to the present level. It is necessary to emphasize that these estimates are only provisional, that mostly deal with directions of the policy rather than on the determination of real values, that would depend on various factors, and which are practically impossible to predict.

***Market-price policy to balance competitive pressures***

34. In the frame of the market-price policy measures for the stabilization of the market and measures of direct budgetary support will be included. Measures for market stabilization include: maintenance of foreign trade protection for sensitive products, in accordance with the opportunities that provides integration with WTO and usage of safeguard and safety-net measures. These measures lose their meaning with liberalization, so more importance should be given to direct payments in providing adequate conditions for production.

35. Montenegro does not dispose of administrative capacities to start with the application of direct payments according to some of the current EU schemes. This is why it is necessary to start with CAP like production coupled payment and gradually create conditions and modify measures so that before the accession the system should be ready to take on EU system of direct payments.

36. Current measures, based primarily on support to input prices, should undergo significant changes and become direct payments per hectare of crop harvested (tobacco, potato and cereals). This would be the first step towards modification of these measures to their decoupling from production and take on of EU model which implies single area payment with fulfilment of certain conditions, for all crops. It is also predicted to introduce gradually direct payments per head for beef sector, sheep and goat production in accordance with actual CAP principles.

***Rural development policy takes the most important place***

37. Implementation of the sustainable agriculture concept imposes strengthening of the rural development policy. Regarding the serious developmental requirements and need to restructure the most important sectors, it is necessary to increase support to rural development three times of the current support level until the accession period. This support would be directed to investments and technological innovations in agriculture and the food processing industry. A significant component of the rural development policy are a set of measures for support to less favoured areas and introduction and expansion of measures for environment protection (organic agriculture, genetic resources, mountain pastures, agro-forestry) and development of villages (infrastructure and the like). With this position and importance of rural development policy in the agricultural budget, Montenegro could have a modern concept of agricultural policy, where market-price policy would be corrective for stabilization of income and market conditions.

38. Concept of measures for rural development and financial framework for their implementation may represent basis for preparation of the Rural development strategy of Montenegro which will elaborate in detail all necessary aspects, and which should be completed in a three year period of time (2007-2009). In parallel, it is necessary to use donations and national budget for the introduction of those measures which have realistic conditions for. This especially goes for support to investments, structural changes, raising the quality level of products and creating better conditions for rural living standard. This three year period should be used for adjustment and gradual extinction of measures which are not in accordance with the EU policy. At the same time, an institutional background would be created, so that in 2010 programming might follow, when EU funds for pre-accession could be used (IPARD).

***Capacity building is a precondition for adjustments to the EU***

39. Realization of policy reform requires a comprehensive institutional support to agriculture, which is implemented through the system of food safety and expert support to faster development of the agriculture as a whole. Condition for financial support of the

Ministry to expert services should be the proposed annual work plan, with detailed measures, dynamics of realization, financial aspects and expected results. An important role in the implementation of the Strategy will have provision of consistent and EU harmonised data and analysis. Beside the information system, developed by the Ministry an important element of modernization are adequate national statistics. Besides the improvement of national statistics and its adjustment to EU requirements, it is necessary to conduct agricultural census. This is especially important for obtaining of a insight into the structure of Montenegrin agriculture.

***The Strategy is just a beginning***

40. Strategy document did not have the ambition to offer ready-made solutions - its objective was to be a 'crossroads' from which several directions of reforms should be taken. The document has not been written in the form of instructions about what and how agricultural producers should produce. It is written, first of all, for the State, as instructions to further implementation of reforms in agriculture. Agricultural producers, the processing industry and entrepreneurs should recognize the messages sent to them through such guidance. With the introduction of European standards and the role of the agriculture and rural development, a new long term perspective is open up for young people in the country that has the development potentials but is not using them in a proper manner. Based on tradition and a new role for agriculture and its connection to other sectors, especially tourism, it is possible to raise the living standard of people. This is a great challenge for producers, organizations and institutions in agriculture, and the state of Montenegro itself.

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# MONTENEGRO'S AGRICULTURE AND EUROPEAN UNION
## Agriculture and Rural Development Strategy

Document A

**CURRENT AGRICULTURAL SITUATION AND DEVELOPMENT PROSPECTS**

# 1 THE ROLE OF AGRICULTURE IN THE ECONOMY OF MONTENEGRO

## 1.1 Historical and Political Background

The Republic of Montenegro is situated in the Southeast of Europe, with a surface area of about 13.812 square kilometres. The total length of the land borders amounts to 614 km. The neighbouring country in the West and partly North is Bosnia and Herzegovina (225 km or 36,6% of total land border); in the North and North-East, Serbia (203 km or 33,1%), in the South-East, Albania (172 km or 28%) and in the South-West, Croatia (14 km or 2,3%). The Adriatic Sea coastline is 293,5 kilometres long.

According to the last census on population in 2004 (in the middle of the year), on territory of Montenegro lived about 620.533 people. Population density, the average number being 45 inhabitants per $km^2$, makes Montenegro one of the least densely populated countries in Europe (except for Nordic countries that are less densely populated). The capital city of Montenegro is Podgorica with a population of 167.578 (2003), while at the old historical royal capital Cetinje live about 18.592 people.

According to statistical data on population in year 2003, Montenegro is a multiethnic, multireligious and multicultural country. The national and ethnic structure of country's population is: Montenegrins (43%), Serbs (32%), Bosnians (8%), Albanians (5%), Muslims (4%) and Croats (1%). Besides the abovementioned 19 other nationalities and ethnic groups live in Montenegro, and these are Roma, Macedonians, Slovenians, Austrians, Bulgarians, Checks, Greeks, Italians, Jews, Hungarians, Germans, Polish, Rumanians, Russians, Rusini, Slovaks, Turks, Ukrainians and Vlahs.

According to the provisions of Berlin Congress (1878), Montenegro was fully recognized as an independent state at an international level. Up until 1910, it was a Princedom, and from that year it became Kingdom of Montenegro. Montenegrin state and Kingdom was abolished in 1918, when it was annexed to the Kingdom of Serbs, Croats and Slovenes, later on to become the Kingdom of Yugoslavia. This act was conducted in an illegal manner when Petrovic-Njegos Dynasty was driven from a throne. Since 1945, Montenegro became a National, and then a Social Republic with state sovereignty and legitimacy as one of the six equal members of the Yugoslav Federal Republic. The introduction of democratic structures brought about the introduction of multiparty system and first parliamentary elections in 1990. In April 1991, Montenegro was declared a Republic and in 1992, Montenegro and Serbia jointly proclaimed the new Federal Republic of Yugoslavia. Belgrade charter, signed on 4$^{th}$ February 2003, proclaimed the State Union of Serbia and Montenegro. A referendum on sovereignty held on 21$^{st}$ of May, with the majority decision by the citizens of Montenegro, renewed the independence of the country.

Territorially and administratively, Montenegro is divided into 21 municipalities that represent the basic units of local self-governance. Montenegro is divided into North, Central and South Region. These three Regions do not possess administrative, cultural nor political independence.

## 1.2 Macroeconomic Framework and the Role of Agriculture

Montenegro is one of the less economically developed countries. Its GDP per capita amounts to €2.473 (2004). Economic development is largely influenced by the late introduction of industrialization, political changes and similar. Montenegro, as one of the least developed republics in former Yugoslavia, went through an accelerated process of industrialization that culminated with high growth rate of economic development in late 70s and at the beginning of 80s. In late 80s and during the 90s of the previous century, evident stagnation of economic development occurred. Economic sanctions UN imposed on Montenegro, war in the surrounding countries, hyperinflation, and a relatively long period of transition had an unfavourable influence on efficiency and competitiveness of the domestic economy, and created additional problems to stabilization of social turbulences (high share of unemployment, large number of retired people etc.)

After the period of economic stagnation caused by political turbulences on the territory of former Yugoslavia during the last decade of the previous century, Montenegro is starting an economic revival. In 2000-2004, the country is experiencing some positive trends

significant for creating a more stable macroeconomic environment. GDP-real growth rate in year 2004 has reached 3,7 percent, showing the highest improvement level in the last five years. In the period under review the inflation rate was reduced from 24,8% (2000) to 4,3% (2004) and the unemployment rate from 32,7% to 22,6%.

*Table A.1: Macroeconomic indicators; 2000-2004*

| Indicator | Units | 2000 | 2001 | 2002 | 2003 | 2004 |
|---|---|---|---|---|---|---|
| Population | No. | 612.496 | 614.791 | 617.085 | 618.233 | 620.533 |
| GDP- real growth | % | 3,1 | -0,2 | 1,7 | 2,3 | 3,7 |
| BDP per capita (current prices) | € | 1.669 | 2.024 | 2.109 | 2.318 | 2.473 |
| Inflation | % | 24,8 | 28,0 | 9,4 | 6,7 | 4,3 |
| Export of goods and services | mill. € | 304 | 385 | 499 | 462 | 623 |
| Import of goods and services | mill. € | 427 | 776 | 818 | 710 | 914 |
| Trade balance | mill. € | -123 | -391 | -334 | -248 | -291 |
| Current account balance | mill. € | 152 | 305 | 176 | -102 | -143 |
| Total employment | No. | 140.762 | 141.112 | 140.100 | 142.679 | 143.479 |
| Unemployment rate | % | 32,7 | 31,5 | 30,5 | 25,8 | 22,6 |
| Annual interest rate | % | 41,0 | 12,4 | 15,2 | 14,1 | 13,5 |
| Government budget deficit as % of GDP | % | : | : | : | -3,3 | -2,2 |
| Food, beverages and tobacco household expenditures | % | 56,6 | 54,3 | 52,7 | 52,1 | 48,0 |

Source: Economic Reform Agenda; MONSTAT; Secretariat for Development; Central Bank of Montenegro; The Ministry of Finance of the Republic of Montenegro; Montenegrin Employment Agency; Household Consumption Questionnaire; Federal Statistical Office, Belgrade

Trends in foreign trade register a simultaneous growth of import and export of goods and services, with more dynamic import growth in period 2000-2004 (annual growth rate of +20,9%) compared to export of goods and services (+19,6%).

Food production and agriculture still play an important role in the economic development of the Republic of Montenegro. The share of agriculture, hunting and forestry in total GDP of Montenegro is 11,3% (2004[1]). The share of food, beverages and tobacco in total household expenditures in Montenegro (average number for total number of households), is relatively high with trends reducing from 56,6% (2000) to 48% (2004).

The place agriculture takes in the economy is hard to evaluate due to obvious flaws in the sector statistics. The discrepancy between the share of agriculture in GDP and the share of employed people in agriculture is evident, since statistics monitor movements of employees in agricultural enterprises, but not in agricultural households[2]. Some tendencies of labour market movement and structure of the active population are presented through data on the share of active agricultural population in total number of active population. According to these data in period between 1961 and 2003, the share of the active agricultural population in the total number of active population has been reduced from 53,6% to 8,8%. There are also considerable changes in labour force structure, as well as large-scale migrations of population from rural to urban areas of Montenegro, economically motivated, above all.

[1] According to SNA concept

[2] For example, the share of number of employees in agriculture, hunting and adequate services in total number of employees in the Republic (2003) was merely 1,63%. The number of employees in food sector, with growing tendencies in the last few years, was 3.351 or 2,33% of the total number of employees (while according to survey carried out by the Ministry of Agriculture in this sector, the number of employees amounted 6.266 of permanent and 1.578 of seasonal employees)

# 2 AGRICULTURAL PRODUCTION

## 2.1 Natural Conditions

### 2.1.1 Climate

The climate in Montenegro severely interchanges between Mediterranean, sub-continental and continental climate in a relatively small area. The climate is mostly dominated by close proximity of the Adriatic Sea and relief intersected by deep and narrow river valleys and mountain chains amongst which narrow relief units, basins, karstic plateaus are positioned.

Regarding the influence of the climate on agricultural production, a number of climatic zones may be singled out. The first zone comprises Montenegrin coastal area and Zetsko-bjelopavlicka ravnica, with surrounding hilly areas of approximate altitude of 600 meters and is characterized with **Mediterranean and changed Mediterranean climate**. The average annual temperature in this climatic zone varies between 14 and $15^0$C, with relatively abundant amount of annual rainfalls (from 1300 to 2500 millimetres). As a result of unequally distributed rainfalls during the year this zone is characterized by emphasized aridity, with long dry periods. The second climatic zone comprises the continental part of Montenegro, up to 1000 meters altitude and the river Ibar, Lim, Tara, Cehotina and Piva valleys. It is characterized with **continental climate** with average temperatures ranging from 8 to $9^0$C and well distributed rainfalls, amounting 800-900 millimetres. The third climatic zone is pre-mountainous area (above 1000 meters) and mountainous part of Montenegro (above 1500 meters), where **sub-mountainous and mountainous climate** prevails. Therefore, moving from south to north and from river valleys to mountains the climate becomes more and more severe, which conditions the selection of the agricultural production.

Different areas of Montenegro vary in total volume and allocation of rainfalls. Coastline disposes between 1260 (Ulcinj) and 1940 millimetres (Herceg Novi), the Central area between 2000-4500 millimetres, while the Continental area has the least amount of rainfall ranging from 800 millimetres (Pljevlja) to 1345 millimetres (Mojkovac).

Due to the high annual amount of rainfall, Montenegro is, except from the area of distinct karsts, rich in water springs and water courses. This enables adequate water supplies for people and cattle. However, the water is not properly used for irrigation of agricultural areas, which influences low crop yields, especially during the dry seasons and in the Southern arid area. Irrigation includes a small area, not more than 2-3 thousand hectares in Cemovsko polje. It is estimated that about 13-15 000 of lowlands is endangered every year by overflows, while at the same time about 18 000 ha of agricultural land the issue of drainage system is not properly solved.

### 2.1.2 Land Area

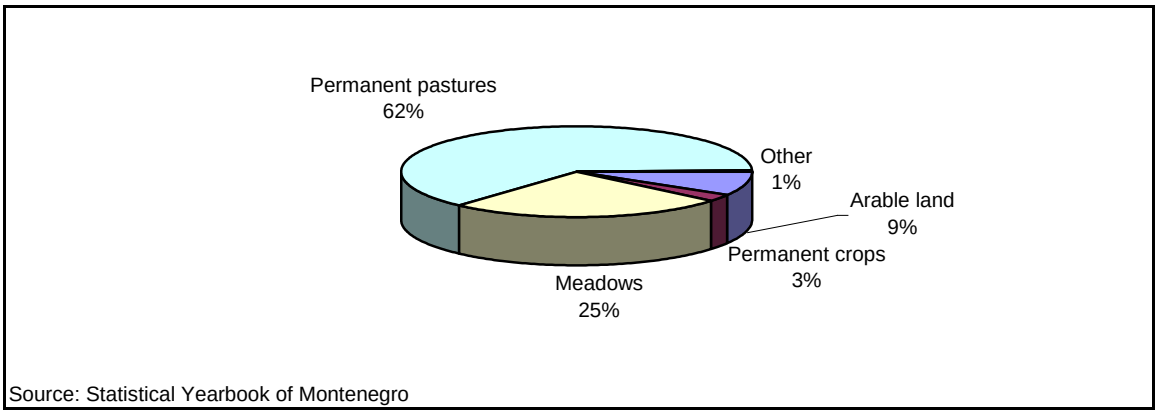
Agricultural area in Montenegro covers 38% of total surface area (2003). Agricultural land resources, with total area of 518.067 ha or about 0,84 ha per capita, represent the important economic attribute to the country. According to this indicator Montenegro is amongst the leading countries in Europe. Only Ireland has larger agricultural area per capita in the EU (1,10 ha), while the average (EU-25) is 0,36 ha (2003). Nevertheless, the agricultural area is not adequately exploited. This is the consequence of the highly emphasized orography and geological composition that predetermines the dominance of low production value soil. Arable land, orchards and vineyards occupy only 58.262 ha or 12% of total agricultural area.

*Table A.2: Agricultural land (000 ha); 1992-2003*

| Category | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arable land | 53,0 | 51,0 | 52,4 | 52,3 | 52,5 | 51,2 | 50,0 | 49,8 | 49,7 | 47,4 | 45,8 | 44,8 |
| Permanent crops | 14,3 | 14,3 | 14,3 | 14,3 | 14,3 | 14,5 | 14,6 | 14,6 | 14,6 | 13,4 | 13,4 | 13,4 |
| Meadows | 118,8 | 120,7 | 119,4 | 119,4 | 119,3 | 121,2 | 121,4 | 120,9 | 121,5 | 129,3 | 130,6 | 131,5 |
| Permanent pastures | 326,6 | 326,6 | 326,6 | 326,5 | 327,0 | 328,2 | 328,4 | 328,4 | 327,6 | 325,3 | 325,6 | 325,7 |
| Swamps | 4,5 | 4,5 | 4,5 | 4,5 | 4,5 | 4,5 | 4,5 | 4,5 | 4,3 | 2,7 | 2,7 | 2,7 |
| **Agricultural area** | **517,1** | **517,1** | **517,1** | **517,1** | **517,6** | **519,6** | **518,8** | **518,2** | **517,8** | **518,1** | **518,1** | **518,1** |

Source: Statistical Yearbook of Montenegro

The share of the pastures and natural meadows in the structure of the agricultural land is the largest. These categories of most extensive land usage together form about 88% of total agricultural area. There is no country in Europe with such a high percentage of permanent pastures in land structure. According to this indicator Montenegro is close to Ireland (73%), Great Britain and Slovenia (about 60%).




Source: Statistical Yearbook of Montenegro

*Chart A.1: Agricultural land use, 2003*

Statistical data sources show no changes in total agricultural area in Montenegro in the last 12 years. If we consider urbanization, the construction of different industrial buildings and other infrastructure in river valleys, karst and coastal areas and especially in the vicinity of settlements, as well as all other space changes (due to the expansion of woodland on the count of pastures and meadows, and erosion degradation), statistical data on agricultural land become overrated. Certain changes in agricultural area become apparent looking at data according to categories. The area of arable land has reduced by 15% from 1992 to 2003, and the area of permanent crops about 6% in the same period. On the other hand, the area of meadows has enlarged (11%). These are unfavourable trends if we bear in mind the low share of fertile land (arable land) in the structure of agricultural land in Montenegro.

### 2.1.3 Main Agricultural Areas

Natural conditions in Montenegro are suitable for diversified development of agriculture, and are at the same time extremely complex. Hilly-mountainous zone with distinctive relief and a deficiency of lowland are the main limiting factor in agriculture development. The existing natural conditions, together with property relations, are the main reason why production in Montenegro is based on small-scale family households.

On the basis of common features like climatic conditions, agricultural production structure, arable land, yield size, cattle density etc., Montenegro can be conditionally divided into five characteristic regions, with adjoining municipalities. This regional division recognizes the main standpoints adopted in the *Green strategy of Montenegro 2000* in 1992. A similar regional division is developed in other documents dealing with agriculture development problematic.

*Table A.3: Municipalities in regions and agricultural area structure*

| Region | Municipality | Total | | Agricultural land | | Arable land* | |
|---|---|---|---|---|---|---|---|
| | | km² | % | ha | % | ha | % |
| Coastal | H.Novi, Kotor, Tivat, Budva, Bar, Ulcinj | 1.591 | 11,5 | 50.815 | 9,8 | 19.353 | 10,3 |
| Zetsko-bjelopavlicki | Podgorica, Danilovgrad | 1.942 | 14,0 | 78..997 | 15,3 | 29.045 | 15,3 |
| Karstic | Cetinje, Niksic | 2.975 | 21,5 | 74.320 | 14,3 | 15.867 | 8,3 |
| Northern-mountainous | Kolasin, Mojkovac, Pljevlja, Zabljak, Savnik, Pluzine | 4.462 | 32,5 | 184.528 | 35,6 | 63.054 | 33,2 |
| Polimsko-ibarski Region | Andrijevica, Berane, B.Polje, Plav, Rozaje | 2.842 | 20,5 | 129.804 | 25,0 | 62.374 | 32,9 |
| **Montenegro (total)** | | **13.812** | **100,0** | **518.067** | **100,0** | **189.745** | **100,0** |

* Permanent crops and meadows included

Due to intensive relief distinctions on a relatively small area, any of the above mentioned regions cannot be considered homogenous. The most heterogeneous ones are the Northern-mountainous and Polimsko-ibarski region. Heterogeneousness of the first region is caused by the Pljevlja municipality, and of the second Plav and Rozaje. Distinctions between them are not clear or emphasized enough, and this fact makes the classification conditional.

**Coastal Region** includes the municipalities of the Montenegrin coastline, from Debeli brijeg to River Bojana and comprises 11,5% of Montenegrin territory. The region disposes of 20 thousand ha of arable land, relatively fertile, consisting of deep alluvial-delluvial soil in lowlands and depressions and anthropogenized cambisols in terraces and lowlands. This region is especially suitable for fruit (subtropical fruits and olives) and field crop production, and its hilly relief for breeding of small ruminants; this relief is rich with honey plants and medical herbs, as well as wild fruit species (dog rose, fig, etc.).


*Chart A.2: Regions in Montenegro*

**Zetsko-bjelopavlicki Region** comprises the areas of Podgorica and Danilovgrad municipalities, and it comprises 14% of total Montenegrin territory. The main Montenegrin

lowland regions are found here at an altitude up to 200 meters (Zeta, Malesija, Bjelopavlicka ravnica, Cemovsko polje, etc.). Cambisols are predominant in Cemovsko polje, along the Cijevna and Moraca banks and in Bjelopavlicka ravnica. In the area of Zeta and Malesija cambisols traverse into the zone of alluvial and swampy soils. This region has optimal conditions for diversified production, vegetable production above all, then field crop production, fruit and wine production (including fig, orange and kiwi) and livestock production.

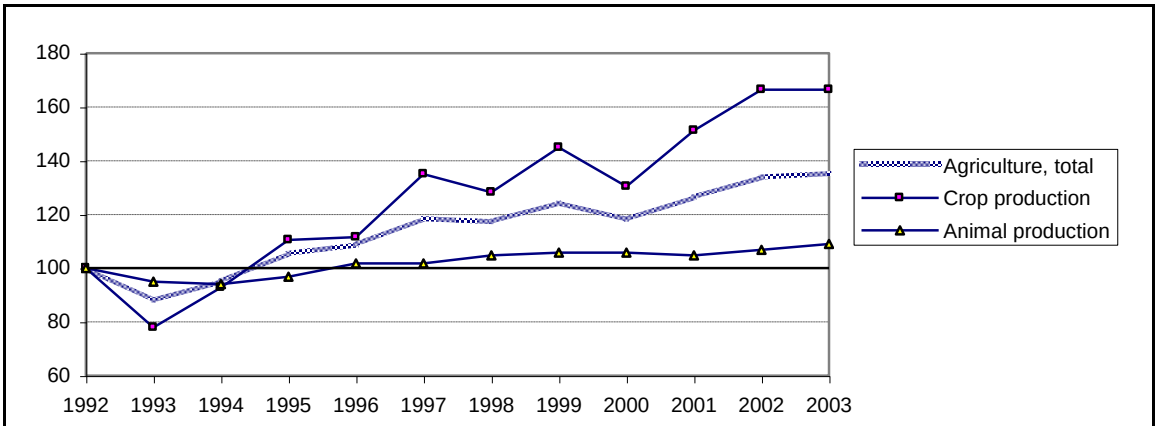
**Karstic Region** propagates across the central regions of Cetinje and Niksic municipalities, or Starocrnogorski krs, up to Golija, Vojnik and Maganik. This region has a scarce quantity of arable land, which is mainly located in karsts, sinkholes and depressions, which are numerous but small and scattered. Although Karstic region comprises 21% of the complete territory, arable land makes up only 8% of the region. This feature together with emphasized aridity, limits plant production (except for Niksic and Grahovsko polje) to crop and partially fruit production (up to 700-800 metres). The most significant agricultural sector in this region is livestock production, particularly goat and sheep production that benefit the most from karstic grasslands. Beef and beekeeping are also important in this region.

**Northern-mountainous Region** is territorially the largest region (32,5%) and it comprises all mountain municipalities of the central and northern part of the Republic. This area is characterized by many plateaus, often with deeper soils, adequate for stubble corn, potato and brassicaceae production, as well as for natural and artificial lawns. The largest percent of the territory are grasslands, proper for summer pasture of cattle. Generally, this region is distinguished by shorter vegetation period, longer lasting snow cover, sharp winters and frosts during the fall and spring time.

**Polimsko-ibarski Region** comprises municipalities extending through the Lim and Ibar valleys (20,5% of the territory). Proportionally, this region has the largest share of arable land 32,9% or 62.000 ha of the total arable land in Montenegro. Arable land consists of relatively fertile alluvial, delluvial and brown soils in the old river terraces, and lake sediments in lowlands and slightly hilly relief; and brown, mainly acid soils on the moderately steep slopes of river valleys. All these traits, together with climatic conditions and an abundance of springs and flowing waters that may be used for irrigation, make this region important for all three agricultural sectors, crop and vegetable production, fruit and livestock production.

## 2.2 Major Agricultural Sectors

Statistical data register no downfall in production after the political changes in late 80s and at the beginning of 90s, characteristic of other countries in transition. During the period between 1992 and 2003 the growth of total production was evidenced, at an average annual rate of +2,8%. Major growth was in crop production (annual growth rate +4,7%), while livestock production shows significantly smaller, but more stable growth of +0,8%.

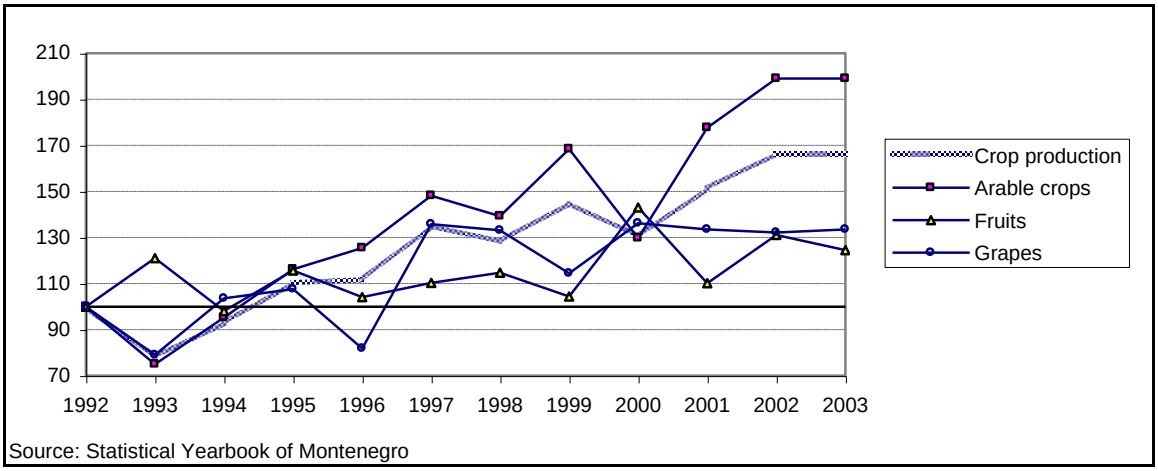


Source: Statistical Yearbook of Montenegro

*Chart A.3: Agricultural production volume indices*

### 2.2.1 Crop Production

Crop production analyses show growing trends in all categories in the period 1992-2003, along with significant oscillations. The fastest growth was in arable crop production, accelerating at an annual rate of +6,4%, while fruit and wine production increased in moderately(+2,0% and +2,7%).



Source: Statistical Yearbook of Montenegro

*Chart A.4: Crop production volume indices*

***Fruit Production***

Statistical data on fruit production in Montenegro is relatively scarce. There is no data on areas according to individual fruit production, while at the same time some fruit categories are not even statistically registered.

According to statistical data, in 2003 orchards (and olive trees), covered an area of about 9.580 ha. In the continental part of Montenegro, plum, apple and pear are the prevailing fruit, while in the coastal area those are fig, orange and tangerine. In comparison with 1992 the total orchard area reduced by about 10% and the number of productive trees reduced by 5%. Regarding the number of productive trees of individual fruits, it is evident that the number of peach trees declined significantly, while the number of orange and tangerine trees increased. Changes in tree number of other fruits have been relatively small.

*Table A.4: Orchard area and number of trees; 1992-2003*

| Indicator | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Area* (ha) | 10.584 | 10.625 | 10.625 | 10.597 | 10.585 | 10.709 | 10.728 | 10.744 | 10.761 | 9.533 | 9.542 | 9.580 |
| **Number of trees (000)** | | | | | | | | | | | | |
| Apples | 346 | 344 | 350 | 372 | 360 | 362 | 372 | 321 | 327 | 331 | 348 | 363 |
| Pear | 178 | 178 | 183 | 186 | 161 | 160 | 161 | 166 | 168 | 175 | 185 | 186 |
| Plum | 1.270 | 1.244 | 1.247 | 1.290 | 1.238 | 1.238 | 1.236 | 1.284 | 1.277 | 1.216 | 1.210 | 1.227 |
| Cherry | 97 | 96 | 97 | 96 | 94 | 93 | 99 | 101 | 104 | 105 | 107 | 109 |
| Peach | 334 | 321 | 321 | 299 | 281 | 245 | 221 | 243 | 196 | 198 | 193 | 196 |
| Nut | 46 | 43 | 43 | 41 | 41 | 42 | 42 | 41 | 42 | 42 | 44 | 45 |
| Fig | 246 | 246 | 246 | 244 | 243 | 225 | 225 | 226 | 214 | 205 | 208 | 203 |
| Orange, tangerine | 143 | 156 | 156 | 144 | 147 | 143 | 186 | 215 | 222 | 216 | 221 | 209 |
| **Total** | 2.660 | 2.627 | 2.644 | 2.672 | 2.565 | 2.508 | 2.542 | 2.598 | 2.553 | 2.487 | 2.517 | 2.538 |

* Along with olive trees
Source: Statistical Yearbook of Montenegro

All fruits, except for citrus and oranges, are extensively grown in gardens or on a small-scale without the application of agro-technological measures (tillage, fertilizing, cutting, pest and frost protection, irrigation), so the fruitfulness is low and alternative (every second or third year). This is the main reason why, along with weather conditions, fruit production varies. In addition, a small growth trend in production was registered during 1992-2003.

*Table A.5: Fruit production (000 t); 1992-2003*

| Indicator | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Apple | 3,2 | 7,6 | 2,9 | 1,9 | 4,5 | 5,1 | 2,3 | 1,9 | 9,5 | 2,4 | 6,0 | 5,0 |
| Pear | 1,8 | 2,9 | 1,4 | 1,5 | 1,6 | 1,7 | 1,1 | 1,6 | 2,2 | 1,5 | 2,2 | 2,1 |
| Plum | 5,9 | 9,6 | 8,7 | 0,9 | 9,6 | 8,5 | 3,1 | 2,9 | 10,8 | 4,7 | 7,9 | 6,5 |
| Cherry | 1,7 | 1,7 | 1,6 | 1,3 | 1,3 | 1,5 | 1,5 | 1,6 | 1,7 | 1,7 | 1,5 | 1,5 |
| Peach | 4,1 | 3,2 | 4,0 | 3,4 | 3,6 | 3,5 | 2,5 | 3,1 | 3,0 | 3,1 | 3,2 | 3,4 |
| Nut | 0,4 | 0,5 | 0,3 | 0,4 | 0,5 | 0,6 | 0,4 | 0,6 | 0,6 | 0,4 | 0,5 | 0,6 |
| Fig | 1,7 | 1,7 | 1,8 | 1,7 | 2,1 | 2,5 | 2,4 | 2,5 | 3,6 | 4,5 | 4,2 | 4,4 |
| Orange and tangerine | 1,6 | 1,3 | 2,0 | 1,8 | 1,7 | 1,9 | 3,3 | 3,1 | 3,2 | 4,1 | 4,8 | 3,5 |
| **Total** | **20,4** | **28,5** | **22,7** | **12,9** | **24,9** | **25,3** | **16,6** | **17,3** | **34,6** | **22,4** | **30,3** | **27,0** |

Source: Statistical Yearbook of Montenegro

In the northern part of Montenegro, plum is the dominant fruit species and is mainly used for the production of brandy (over 95%), while the rest of it is processed for jam, or dried or consummated in a fresh condition. The possibility of maintaining processed plum and their relatively easy trade has influenced that, despite the removal of sick trees, the number of plum trees remained relatively constant in between 1992 and 2003.

The possibility of marketing surpluses is the factor on which depends apple and pear production. As soon as the possibilities for marketing are created (processing or consumption) fruit collecting intensifies, while uncertain marketing influences that the significant number of fruits are not collected (there is no real estimate about the quantities). Pear fruits are almost completely processed in brandy recent.

The main limiting factors of rapid fruit production development in Montenegro are the insufficient level of knowledge of producers and inadequate selection of assortments.

### *Olive Production*

Olive is the oldest subtropical culture on the Montenegro coastline. It is estimated that the oldest tree is over 2000 years old. With 3.200 ha, olive covers one third of the total fruit area in Montenegro. There are 412.000 olive trees on the coast of Montenegro, out of 620.000 that existed before. Trees old 100 years and older are predominant. About 70% of trees are traditional ones, while there are less than 10% young trees. Autochthonous varieties amount to 90% (zutica and other), which are mainly used for the production of oil and conservated fruit in the traditional way. Despite the potential for production of olive oil of excellent quality, production is extremely extensive, which is why the existing capacities are not adequately used (below 50%). The yield size varies and it changes from 300 tonnes a year in poor harvest year, up to 4.000 tonnes in fertile years. As statistical yield data divide the total collected yield (collected from less than half a number of trees) with the total number of olive trees, this causes the data on olive yield to remain permanently low.

Market and demand for domestic olive products do exist, but due to insufficient use of potentials and besides the slight growth rate in the previous years, olive production does not satisfy national demand.

*Table A.6: Olive production; 1992-2003*

| Indicator | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of trees (000) | 407 | 412 | 411 | 412 | 409 | 416 | 435 | 436 | 429 | 427 | 427 | 412 |
| Production (000 t) | 1,0 | 0,9 | 0,2 | 7,6 | 0,2 | 0,3 | 4,0 | 2,4 | 1,8 | 0,4 | 0,6 | 0,9 |
| Yield per tree (kg) | 2,5 | 2,3 | 0,5 | 18,5 | 0,4 | 0,7 | 9,2 | 5,5 | 4,1 | 1,0 | 1,4 | 2,2 |

Source: Statistical yearbook of Montenegro

### *Wine and Grape Production*

Vineyard areas in Montenegro amount to 3.859 ha (2003). No major change occurred in the level of areas under vineyards in the period between 1992 and 2003, only slight growth was recorded. Vine cultivars of various vegetative periods and growing purposes can be grown in Montenegrin vineyard zone due to favourable climatic conditions.

In grape assortments, grape varieties (90%) for production of red (Vranac, Kratosija, Merlot, and Cabernet) and white wines (Krstac, Chardonnay, Rkaciteli, Sauvignon) prevail. The share of table grape varieties, for consumption (Cardinal, Ribijer, Italia) is 10%. The

Biotechnical Institute owns a collection of grape species consisting of 550 species, hybrids and grape varieties.

Bearing in mind the fact that in Montenegrin vineyard areas dominate autochthonous varieties (over 70%), their yields are equitable, stable and of standard quality, and used for the production of excellent Montenegrin wines.

*Table A.7: Grape production; 1992-2003*

| Indicator | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vineyard area (000 ha) | 3,7 | 3,7 | 3,7 | 3,7 | 3,7 | 3,8 | 3,8 | 3,9 | 3,9 | 3,9 | 3,9 | 3,9 |
| Number of grape trees (mil.) | 17,2 | 16,7 | 16,5 | 16,4 | 14,4 | 15,3 | 15,3 | 15,5 | 15,1 | 15,3 | 15,3 | 15,3 |
| Production (000 t) | 26,4 | 20,9 | 27,4 | 28,4 | 21,6 | 35,8 | 34,9 | 30,1 | 36,0 | 35,3 | 35,0 | 35,1 |
| Yield per ha (t) | 7,2 | 5,7 | 7,5 | 7,6 | 5,8 | 9,4 | 9,1 | 7,8 | 9,3 | 9,2 | 9,1 | 9,1 |
| Yield per tree (kg) | 1,5 | 1,2 | 1,7 | 1,7 | 1,5 | 2,3 | 2,3 | 1,9 | 2,4 | 2,3 | 2,3 | 2,3 |

Source: Statistical Yearbook of Montenegro

### *Field crop and Vegetable Production*

In 2003, 32.135 ha of arable land were used for field crop and vegetable production out of total 44.818 hectares. The remaining 12.683 ha or 28% of total arable land are non-cultivated areas or areas used for extensive agricultural production. Due to the reduction of total areas of arable land and because of the permanent high share of non-cultivated land, in the period 1992-2003 areas of field crop and vegetable production reduced by 23%. This indicates low and insufficient usage of limited resources.

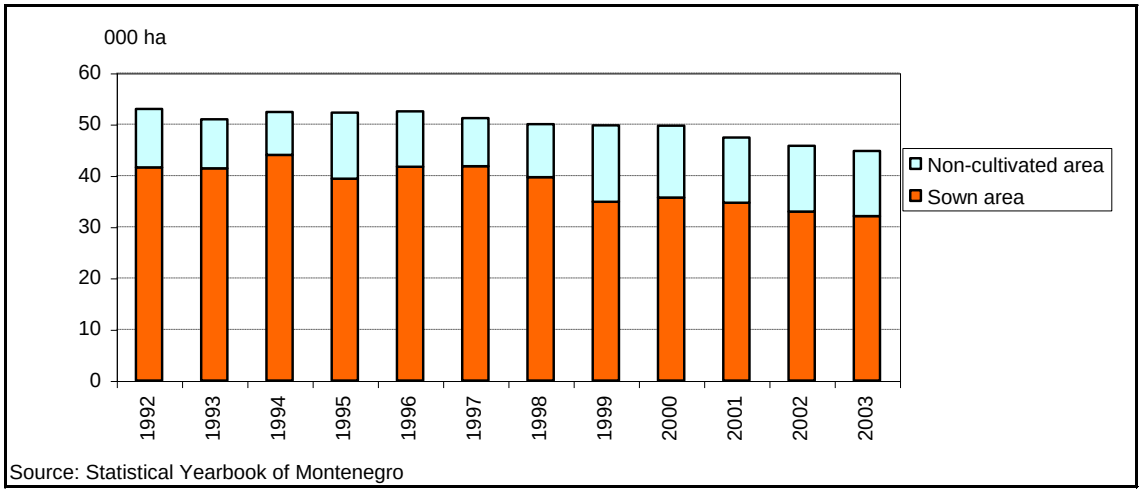



*Chart A.5: Arable land area*

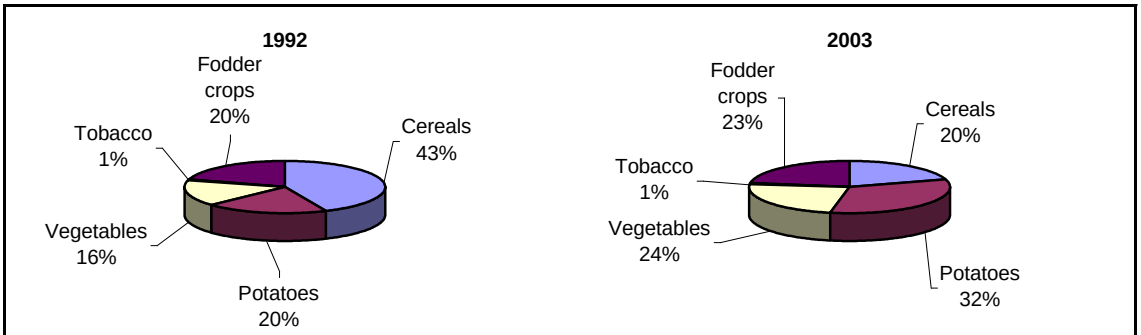
The constant fall in production areas is caused by a reduction in the areas under cereals, which in 2003 occupied only one-third (36%) of the area, of that in 1992. Moderate decline is also notable in forage areas, while data on potato and vegetables show an increase in area.

*Table A.8: Main field crops and vegetables area (ha); 1992-2003*

| Indicator | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Arable land, total** | **53.000** | **51.000** | **52.400** | **52.300** | **52.500** | **51.200** | **50.000** | **49.800** | **49.700** | **47.400** | **45.800** | **44.800** |
| Fallow land | 11.400 | 9.600 | 8.400 | 12.900 | 10.800 | 9.400 | 10.300 | 14.900 | 14.000 | 12.700 | 12.800 | 12.700 |
| **Sown area** | **41.600** | **41.400** | **44.000** | **39.400** | **41.700** | **41.800** | **39.700** | **34.900** | **35.700** | **34.700** | **33.000** | **32.100** |
| **Cereals** | **17.934** | **17.657** | **19.710** | **13.472** | **13.300** | **12.496** | **10.573** | **9.740** | **9.390** | **8.080** | **7.061** | **6.466** |
| Wheat | 3.664 | 3.543 | 5.552 | 3.341 | 2.614 | 2.365 | 1.683 | 1.731 | 1.478 | 1.463 | 1.428 | 1.448 |
| Rye | 190 | 195 | 148 | 128 | 99 | 158 | 59 | 50 | 66 | 74 | 43 | 48 |
| Grain maize | 6.013 | 6.136 | 6.209 | 5.506 | 5.620 | 5.205 | 4.224 | 4.129 | 3.932 | 4.069 | 3.776 | 3.366 |
| Barley | 6.378 | 6.178 | 6.147 | 4.497 | 4.967 | 4.768 | 4.607 | 3.138 | 3.208 | 1.811 | 1.325 | 1.147 |
| Oats | 1.689 | 1.605 | 1.654 | 1.251 | 1.441 | 1.155 | 1.115 | 692 | 706 | 663 | 489 | 457 |
| **Potato** | **8.200** | **8.568** | **9.718** | **10.101** | **10.244** | **10.387** | **9.812** | **10.008** | **10.577** | **10.626** | **10.504** | **10.505** |
| **Vegetables** | **6.672** | **6.731** | **6.062** | **6.263** | **8.071** | **8.416** | **9.304** | **7.416** | **7.770** | **7.898** | **8.079** | **7.628** |
| Onion | 559 | 568 | 631 | 648 | 697 | 695 | 670 | 610 | 690 | 682 | 642 | 628 |
| Garlic | 249 | 259 | 286 | 285 | 266 | 267 | 226 | 223 | 223 | 228 | 235 | 192 |
| Tomato | 949 | 971 | 690 | 669 | 1.079 | 1.153 | 1.154 | 961 | 989 | 1.038 | 1.079 | 1.014 |
| Pepper | 792 | 809 | 494 | 443 | 746 | 838 | 869 | 796 | 827 | 817 | 799 | 799 |
| Kidney beans | 512 | 551 | 606 | 593 | 643 | 651 | 714 | 593 | 620 | 643 | 622 | 670 |
| Peas | 72 | 91 | 162 | 145 | 192 | 174 | 183 | 163 | 144 | 138 | 153 | 170 |
| Cabbage and kale | 1.378 | 1.388 | 1.724 | 1766 | 1.897 | 1.847 | 2.010 | 1.844 | 1.945 | 1.936 | 2.028 | 1.903 |
| Melon | 1.224 | 1.225 | 703 | 907 | 1.484 | 1.758 | 1.728 | 1.298 | 1.445 | 1.547 | 1.591 | 1.333 |
| **Tobacco** | **299** | **337** | **224** | **179** | **345** | **260** | **299** | **231** | **208** | **216** | **184** | **201** |
| **Forage** | **8.392** | **7.925** | **8.103** | **7.543** | **8.161** | **8.946** | **8.055** | **7.442** | **7.507** | **7.882** | **7.176** | **7.257** |
| Green maize | 378 | 210 | 207 | 201 | 137 | 104 | 121 | 71 | 130 | 100 | 108 | 103 |
| Fodder beet | 347 | 364 | 375 | 394 | 312 | 292 | 328 | 291 | 310 | 310 | 277 | 290 |
| Clover | 720 | 683 | 1.381 | 925 | 1.310 | 1.300 | 1.039 | 1.015 | 871 | 917 | 895 | 770 |
| Alfalfa | 4.858 | 3.678 | 2.846 | 3.156 | 3.241 | 3.734 | 3.513 | 3.175 | 3.162 | 3.296 | 2.942 | 2.994 |

Source: Statistical Yearbook of Montenegro

Changes in sown area influenced the land use structure itself. Because of the continuous reduction of areas under cereals, their share reduced from 43% in 1992 to 20% in 2003. In sown structure, dominant cultivars are potato and vegetables that together form about 56% of cultivated arable land (36% in 1992).




Source: Statistical Yearbook of Montenegro

*Chart A.6: Arable land structure by category*

Although field crop and vegetable production area has reduced between 1992 and 2003, the production of most of the arable crops rose significantly. A major increase has been recorded with vegetables (more then three times) and potato (more than twice), which is above all the result of the yield augmented. The production increase is the result of better technical equipment and technological level of production, the introduction of high yield species and hybrids, extension work and favourable retail prices and direct payment support.

Tobacco production has also increased in the last few years, although official statistical data significantly differ from those obtained from other relevant sources[3]. Production is located in the area of Podgorica city (region of Zeta and Malesija). Up until year 2003 only Herzegovacki tobacco was grown there, and later on two new, high-yield American tobaccos were introduced: Berley and Maryland. The growth of tobacco production in Montenegro is heavily influenced by high yields tobacco produced in recent times.

Compared to 1992 cereal production was the only one to reduce, owing to the fact that higher yield could not replace the reduction of sown areas.

*Table A.9: Main field crop and vegetable Production (000 t); 1992-2003*

| Indicator | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cereals** | | | | | | | | | | | | |
| Wheat | 8,9 | 8,1 | 13,6 | 9,2 | 6,4 | 6,6 | 4,6 | 4,5 | 2,9 | 4,1 | 4,9 | 4,4 |
| Rye | 0,3 | 0,3 | 0,3 | 0,2 | 0,2 | 0,3 | 0,1 | 0,1 | 0,1 | 0,1 | 0,1 | 0,1 |
| Grain maize | 10,4 | 8,2 | 12,9 | 13,2 | 13,8 | 14,2 | 9,4 | 9,9 | 6,8 | 10,3 | 10,8 | 8,6 |
| Barley | 10,7 | 7,3 | 10,3 | 8,8 | 9,2 | 9,1 | 6,4 | 4,6 | 4,1 | 3,4 | 3,0 | 2,2 |
| Oats | 2,4 | 1,9 | 3,2 | 2,3 | 1,9 | 2,3 | 2,0 | 1,2 | 0,9 | 1,1 | 1,1 | 0,8 |
| **Potato** | 45,2 | 30,9 | 48,8 | 48,9 | 52,2 | 67,6 | 51,2 | 72,1 | 60,8 | 70,4 | 101,3 | 113,3 |
| **Vegetables** | | | | | | | | | | | | |
| Onion | 2,2 | 2,0 | 3,1 | 3,0 | 3,5 | 3,9 | 3,9 | 3,8 | 3,0 | 3,2 | 3,3 | 3,3 |
| Garlic | 0,6 | 0,5 | 0,7 | 0,7 | 0,7 | 0,9 | 0,8 | 0,7 | 0,5 | 0,7 | 0,7 | 0,7 |
| Tomato | 5,8 | 5,8 | 5,4 | 7,0 | 10,5 | 14,6 | 17,7 | 18,9 | 22,7 | 21,2 | 24,4 | 22,8 |
| Pepper | 4,0 | 4,2 | 3,2 | 3,7 | 5,6 | 8,7 | 12,0 | 17,6 | 16,3 | 17,0 | 17,1 | 16,4 |
| Kidney beans | 0,9 | 0,7 | 0,9 | 1,1 | 1,1 | 1,3 | 1,3 | 1,4 | 1,5 | 1,9 | 1,9 | 2,2 |
| Peas | 0,1 | 0,1 | 0,2 | 0,2 | 0,2 | 0,3 | 0,4 | 0,5 | 0,3 | 0,3 | 0,3 | 0,4 |
| Cabbage and kale | 9,6 | 7,4 | 13,4 | 14,5 | 15,8 | 18,3 | 20,6 | 27,3 | 24,6 | 28,6 | 26,8 | 27,2 |
| Melons | 7,9 | 6,7 | 7,1 | 11,7 | 13,4 | 24,3 | 26,5 | 34,3 | 35,6 | 41,3 | 47,9 | 38,6 |
| **Tobacco** | 0,7 | 0,7 | 0,4 | 0.4 | 0.7 | 0.8 | 0.6 | 0,4 | 0,3 | 0,3 | 0,4 | 0,4 |
| **Forage plants** | | | | | | | | | | | | |
| Green maize | 4,7 | 1,6 | 1,5 | 1,9 | 1,1 | 1,1 | 1,0 | 0,7 | 1,4 | 1,1 | 1,6 | 1,1 |
| Fodder beet | 2,4 | 2,3 | 2,7 | 5,0 | 3,2 | 3,4 | 2,9 | 3,1 | 2,5 | 3,6 | 3,8 | 4,5 |
| Clover | 1,7 | 1,2 | 5,2 | 3,2 | 5,0 | 5,2 | 4,5 | 3,9 | 2,4 | 3,3 | 3,7 | 3,1 |
| Alfalfa | 12,2 | 8,8 | 7,7 | 11,4 | 12,1 | 11,7 | 13,4 | 11,7 | 10,6 | 11,8 | 10,9 | 12,0 |

Source: Statistical Yearbook of Montenegro

Yields of main field crop and vegetable cultures in Montenegro, although still growing, are relatively low and far below the yields in Western-European countries. They are at the level of surrounding countries, also undergoing transition processes.

*Table A.10: Yield levels of some field crops and vegetables in selected European countries; 2001-2003 average*

| | Yield (t/ha) | | | | Indices (Montenegro= 100) | | | |
|---|---|---|---|---|---|---|---|---|
| **Country** | **Wheat** | **Corn** | **Potato** | **Tomato** | **Wheat** | **Corn** | **Potato** | **Tomato** |
| Germany | 7,1 | 8,5 | 39,6 | 149,8 | 229 | 318 | 440 | 724 |
| Holland | 8,4 | 8,8 | 42,7 | 459,5 | 270 | 331 | 475 | 2220 |
| Belgium | 8,3 | 11,0 | 43,6 | 312,0 | 268 | 413 | 484 | 1507 |
| France | 6,7 | 8,2 | 40,1 | 127,2 | 217 | 309 | 446 | 614 |
| Hungary | 3,5 | 5,1 | 21,9 | 38,2 | 112 | 191 | 243 | 185 |
| Albania | 3,0 | 4,0 | 15,1 | 26,6 | 96 | 150 | 168 | 129 |
| Bulgaria | 2,8 | 3,1 | 13,2 | 15,6 | 90 | 118 | 147 | 75 |
| Croatia | 3,7 | 5,1 | 9,2 | 9,9 | 120 | 193 | 102 | 48 |
| Bosnia and Herzegovina | 2,5 | 3,7 | 8,4 | 8,3 | 82 | 139 | 93 | 40 |
| Montenegro | 3,1 | 2,7 | 9,0 | 20,7 | 100 | 100 | 100 | 100 |

Source: htpp/faostat.fao.org

[3] According to Duvanski kombinat Podgorica data, the amount of tobacco produced from 1999 increased 7 times. In 2004, 504 tons of tobacco was produced, and it is expected that the yield in 2005 will be about 750 tons. Organized production started with the foundation of the Montenegrin monopoly in 1903, which was the first organized production of any culture in agriculture of Montenegro.

The main limiting factors in arable crop production are the following: low fertility of land, inadequate basic processing and pre-sowing preparation, inadequate selection of species and hybrids, unfavourable plant constitution, diseases and pests, unfavourable rainfall distribution, climatic stresses, as well as low educational attainment of agricultural producers.

The production of vegetables is characterized by the lack of intensive arable land production and inadequate sowing structure. The fact that vegetable production in Montenegro is regarded as a supplementary activity causes the production of low quantities of products, designated for local market purposes only. Vegetable production in protected structures is also insufficiently developed (carried out at only 60 ha), although in the last few years the development of production in protected structures has been intensified[4].

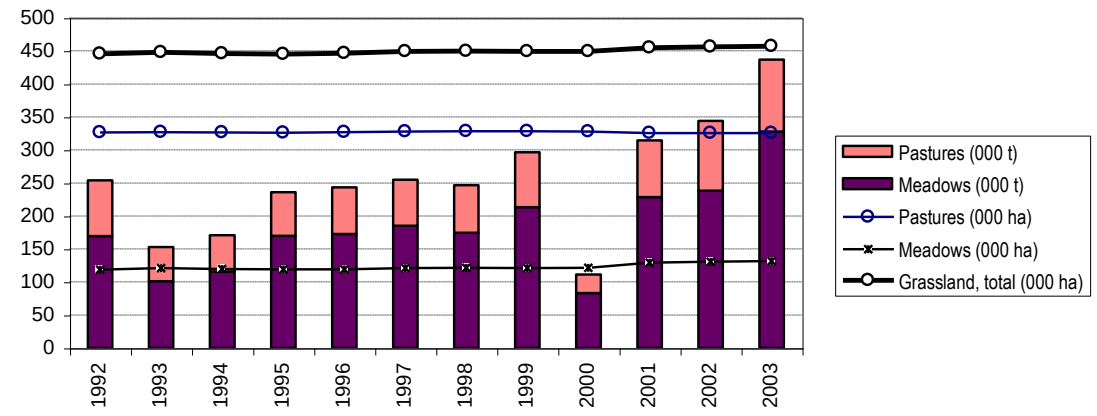
The poor training of most of the vegetable growers results in the application of extensive methods of growing, followed by low yields, which are in collision with the high price of seed and other inputs. The use of inadequate and outdated mechanization with undeveloped processing capacities does not provide for the profitable production of vegetables for the industry. Vegetable assortments used today are mainly well selected, and seed imported from Holland.

Production of vegetable seeds (besides potato seed) is not yet developed in Montenegro.

***Permanent grassland***

Grassland areas remained relatively unchanged in period between 1992 and 2003, although some expert estimates that this data does not correspond to the current situation. Due to the evident reduction in the number of the ruminant population, especially sheep, part of these areas, particularly in the category of forest pastures have become permanent forestland. These changes are very difficult to track in the official statistics. The loss is partly covered on the account of meadow areas that for the same reason become pastures. However, besides all this there is a growth in the number of permanent pastures, mainly as a consequence of the reduction of arable land.

Natural meadows form 90% of the total areas under meadows, while sown lawns are present in smaller areas of well-managed households. Average yields on meadows are relatively low (1,5-1,8 t/ha of hay) due to the fact that agro-technological measures are not applied at most of these areas. Here we have to bear in mind that the low yield of hay on meadows is accompanied by low quality, as the result of the unfavourable floristic composition, late mowing and inappropriate storing. Natural meadows and pastures, as the most important potential for forage production, are exposed to degradation because of the unfavourable changes in botanical composition, increased share of paltry, harmful species and the like.




Source: Statistical Yearbook of Montenegro

[4] Because of the problems caused by high prices of inputs for this kind of production (starting with building material, irrigation system and heating system, up to seed, fertilizers and so on) producers decide to build smaller green house areas (500-1000 square meters); this causes high prices of products which are not competitive with similar products from the abroad.

*Chart A.7: Permanent grassland - area and production, 1992-2003*

Some positive trends are noticeable in the period 1992-2003 from the aspect of production. Production on meadows almost doubled compared to 1992, while production on pastures increased about 30%.

### 2.2.2 Livestock Production

Livestock production is the largest contributor to Montenegro's agricultural economy. The importance of the livestock sector becomes even more evident since the ruminant breeding allows for utilization of less productive areas (permanent grassland), that prevail in the structure of total agricultural land in Montenegro, which has led to the situation that currently leading livestock sectors are cattle and sheep production.

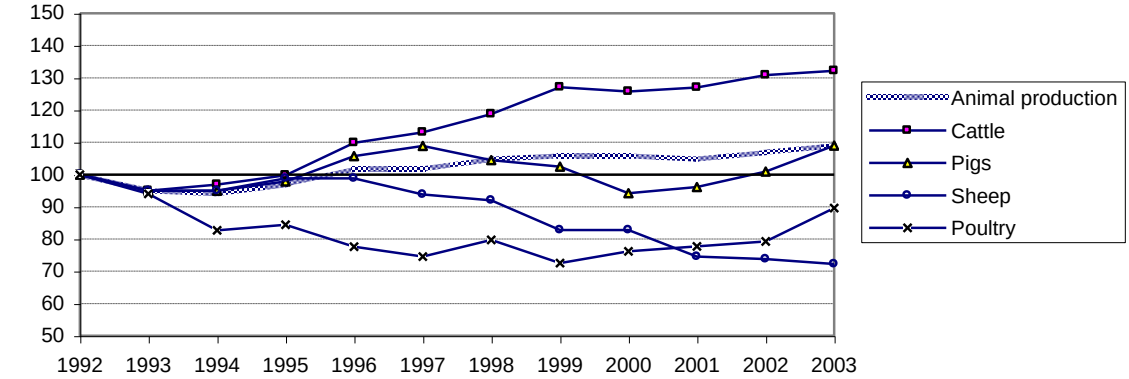
The numbers of animals, cattle and pigs in the last decade remain relatively stable, while a reduction in the numbers of sheep and horses is evident. The number of poultry during the 90s fell slightly, and from 2000, grew again. Official statistics do not register data on the number and production of goats, and according to estimates made by Biotechnical Institute the existing population of goats amounts to 50-55.000 heads.

*Table A.11: Livestock number and production, 1992-2004*

| | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Number of animals – at the beginning of year** (000) | | | | | | | | | | | | | |
| Cattle (total) | 188 | 177 | 169 | 173 | 180 | 180 | 176 | 178 | 180 | 179 | 178 | 183 | 175 |
| - of which cows and heifers | 130 | 123 | 120 | 123 | 125 | 124 | 123 | 124 | 128 | 121 | 120 | 124 | 127 |
| Pig | 23 | 24 | 22 | 22 | 22 | 22 | 24 | 23 | 22 | 19 | 21 | 22 | 24 |
| Sheep | 488 | 449 | 430 | 431 | 448 | 439 | 392 | 333 | 306 | 293 | 244 | 241 | 252 |
| Poultry | 953 | 860 | 794 | 806 | 781 | 771 | 750 | 813 | 745 | 791 | 817 | 838 | 890 |
| Horses | 19 | 17 | 16 | 16 | 16 | 16 | 15 | 14 | 12 | 11 | 10 | 10 | 9 |
| **Production** | | | | | | | | | | | | | |
| Beef – live weight gain (000 t) | 12,1 | 11,5 | 11,7 | 12,1 | 12,8 | 12,5 | 12,2 | 12,2 | 12,0 | 12,6 | 13,5 | 13,3 | : |
| Pigs – live weight gain (000 t) | 4,6 | 4,4 | 4,4 | 4,5 | 4,9 | 5,0 | 4,9 | 4,8 | 4,4 | 4,5 | 4,8 | 5,2 | : |
| Sheep – live weight gain (000 t) | 10,4 | 9,8 | 9,8 | 10,2 | 10,2 | 9,7 | 9,2 | 7,9 | 7,9 | 7,3 | 7,4 | 7,1 | : |
| Poultry – live weight gain (000 t) | 2,0 | 1,9 | 1,8 | 1,9 | 1,9 | 1,8 | 1,8 | 1,7 | 1,8 | 2,0 | 2,0 | : | : |
| Eggs (mill. pieces) | 87 | 82 | 69 | 71 | 62 | 60 | 67 | 60 | 62 | 62 | 63 | 104 | : |
| Milk (mill. lit) | 143 | 134 | 137 | 141 | 153 | 163 | 177 | 195 | 197 | 194 | 198 | 203 | : |

Source: Statistical yearbook of Montenegro

The volume of total livestock production has increased. The largest growth compared to 1992 is in cattle production (average annual rate 2,6%), while sheep production declined (-2,6% annually), although this reduction has been slowed down in the last three years. Cyclic oscillations are characteristic for pork production without some special trends. Poultry production fell evident up to 1999, and then production moderately rose. We should here emphasize that the statistics do not provide adequate data on broiler production, which makes correct determination of the quantities of poultry meat impossible.




Source: Statistical Yearbook of Montenegro

*Chart A.8: Livestock production volume indices*

***Cattle production***

Cattle production represents the most important field of livestock production with the total inventory of 175.000 heads and 127.000 of cows and heifers, and about 200 millions liters of milk. Cattle production has a wide distribution and is more or less present in most agricultural households in the Republic. Beef cattle is not regionally equally distributed. About 62% percent of cattle are raised in Polimsko-ibarska and Northern-mountainous region, which take up about 60% percent of the total agricultural area. The number of cattle in these two regions in the last few years has reduced, as a consequence of the out-migration of the countryside. At the same time the number of cattle in Karstic region, Zetsko-bjelopavlicka ravnica and Coastal region has slightly increased which is probably conditioned by the development of processing capacities in these areas and the vicinity of large cities.

*Table A.12: Beef inventory by regions; 1998 and 2004*

| | 1998 | | 2004 | |
|---|---|---|---|---|
| **Region** | **Number (000)** | **Structure (%)** | **Number (000)** | **Structure (%)** |
| Coastal | 14 | 8 | 19 | 11 |
| Zetsko-bjelopavlicka ravnica | 20 | 12 | 24 | 14 |
| Karstic | 20 | 12 | 23 | 13 |
| Northern-mountainous | 56 | 32 | 54 | 31 |
| Polimsko-ibarski | 63 | 36 | 55 | 31 |
| Montenegro total | 173 | 100 | 175 | 100 |

Source: Statistical Yearbook of Montenegro

According to Biotechnical Institute estimates, breeds of beef cattle are unfavourable, various crossbreeds account for 50% of the total population. Tyrol Grey breeds constitute about 15%, while highly productive breeds Holstein and Brown together form about 32% of the population. Changes in the breed structure are towards increase of the number of these two breeds, and partly the Simmental breed that now represents about 3% of the population. Artificial insemination accounts for only 25% of the population.

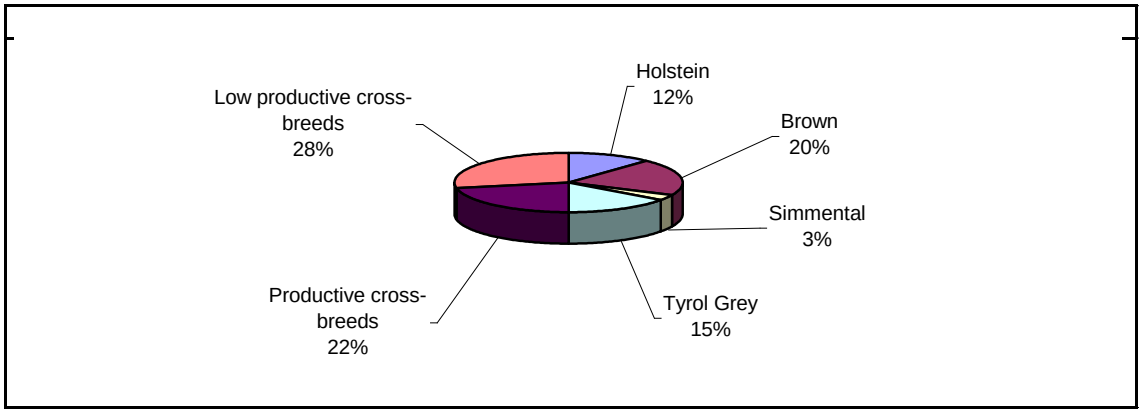
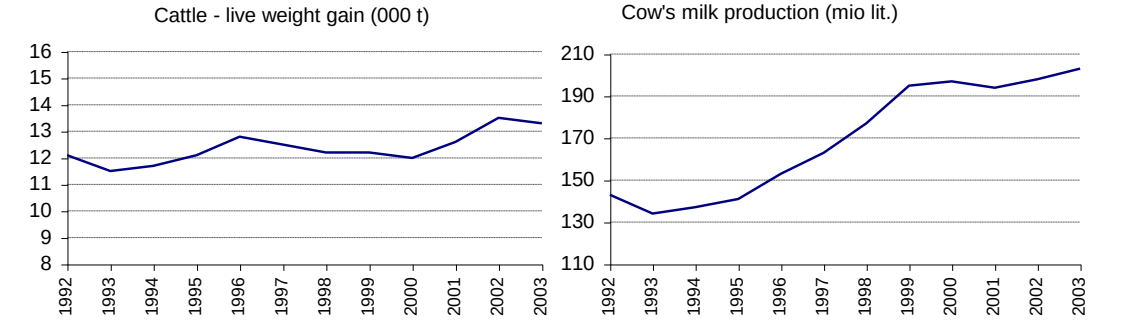



*Chart A.9: Breed structure of beef population*

This kind of breed structure causes dual-purpose beef production - milk and meat production, although the emphasis is still on milk production.

If we look at the total growth rate in the last ten years, meat production has increased moderately, although with numerous oscillations, while milk production in the same period had a much more intensive growth.

Relatively moderate meat production is caused by the high proportion of calves in the total number of slaughtered animals. Statistical data indicate that the calves accounted for 48 up to 54% of the total number of beef slaughtered in slaughterhouses and private butcheries. Regarding the fact that in households the slaughtering of calves is more present compared to other categories, these percentages on overall level become larger. Calf slaughtering practice is also evident if we consider the number of slaughtered heads according to categories. Cows and heifers accounted for 68% percent of Montenegro's total, while other categories represent only 32%. Compared to other countries, Slovenia, for example, the share of other categories in total population accounted for 60%. Production of beef meat (all categories) in Montenegro is estimated at about 80 kg per cow.




*6Chart A.10: Live weigh gain of cattle and production of milk; 1992-2003.*

The total production of milk in the last ten years increased from 140 to 200 million litres, while the number of heifers in the period under review increased slightly (from 123.000 to 127.000 heads). This indicates a relatively significant increase in milk yields. However, average production of 2000 litres per head (according to data and estimates made by Biotechnical Institute) is still well below the average of most European countries (Holland 7.296, Austria 5.476, Switzerland 5.447, and Slovenia 4.066 kg). Selection service data show that the average milk yield of the cows included in the diary control (2% of the population) is significantly larger and amounts to about 4100 kg.

Only 10-12% of total milk production is delivered to dairies and is industrially processed. The significant share of milk is used for fattening of calves, due to their high prices, as well as because of the collecting difficulties. The remaining quantities of milk are processed in different sorts of autochthonous milk products (mainly various kinds of chesses and partially skorup and kajmak) in households and are used for self-consumption or for sale.

***Sheep Production***

Sheep production is also a very important sector of livestock production and economically is just behind cattle production. Current sheep production is based on the 250.000 heads, distributed in the northern part of Montenegro, or Northern-mountainous (37%) and Polimsko-ibarski region (32%). This region has the main permanent grassland area (60%). This production is characterized by extensive sheep breeding, mainly local breeds of Pramenka for three-purpose production (milk, meat, wool). Sheep production is present in mountainous areas where the process of out-migration continues, which is one of the main reasons why the number of sheep has reduced in the last years, up until two years from now when the process ended.

As far as the breed structure is concerned, Pramenka prevails with a number of local autochthonous breeds, while the share of the highly productive purebreds (Virtemberg, Il de frans, and East-African breed) is very low, almost negligible. Two breeds of Pramenka are dominant: Pivska or Jezeropivska and Sjenicka. Breeds like Bardoka, Ljaba or Zetska zuja, have less economic value because they are fewer in number. However, these three breeds are invaluable from the aspect of genome of autochthonous breed preservation. The share of crossbreds in the total number of population is very high (about 40%). These are crossbreds of local breeds of Pramenka, as well as crossbreds of Pramenka and more productive breeds, Virtemberg above all. The second group of crossbreds is particularly important regarding productive capacities; the most important ones are crossbreds of Sjenicka Pramenka and Virtemberg, which are at the same time the most numerous ones.

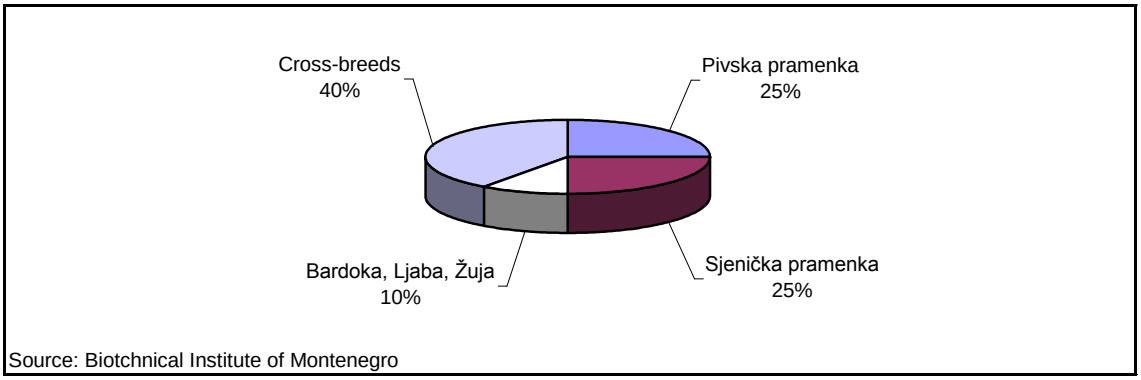



*Chart A.2: Breed structure of sheep population*

Sheep production possesses triple production features: meat-milk-wool. As the wool has not been adequately valorised in the last 15 years, we can now say that the production is mainly concentrated on dual-purpose production: meat-milk. The current value of these products is estimated as follows: meat 65-70%, milk 30-35% depending on area, production means and milking capacities of the sheep; while the share of wool is almost worthless.

The production of sheep milk, according to research results moves between 80 to 110 kg per sheep, only bardoka produces up to 150 kg of milk in favourable conditions. Sheep fertility is basically uniform and is approximately 120%, and depends more on the way the sheep is grown and on the quality of nutrition, than on the breed.

According to research indicators, the average annual production per ewe in the last ten years amounted for 45 kg of milk and about 30 kg of live weight gain, while in year 2003, average milk production was 58 litres per ewe, and live weight gain 37 kg. Better breeding conditions (nutrition above all) and on the other hand a higher share of crossbreds with better productive traits, contributed to this result.

***Goat Production***

Goat production, overlooking the fact that it is smaller in volume than sheep production (about 50 to 55 thousand productive heads), is very important for the karstic regions in Montenegro (areas of Niksic, Cetinje, Danilovgrad, Podgorica municipalities, as well as coastline), where natural conditions do not allow for the breeding of other kinds of ruminants (cattle or sheep).

The breed structure of goats in Montenegro can roughly be divided into three groups: modern breeds (mostly Alpine and sporadically Sanska) and breeds modern in type; domestic Balkan goat with a few varieties according to coat colour; and crossbreds, developed through unplanned crossing of different varieties of domestic Balkan goats, and the same ones with noble breeds.

Particularly positive tendencies in goat production are noticeable in the increase of the number of farmers breeding larger herds, and in the increase of the number of heads per herd. According to data of the Ministry of Agriculture on subsidies, in 2004, about 200 farmers owned more than 30 breeding animals per herd, the average number of heads being 75 per herd. The rest of the population is smaller farms with 2 to 30 heads per herd. Although this production is significant in number and volume, statistics do not register it yet.

According to the results of the detailed analysis Biotechnical Institute made, the average production of milk per head is 140 kg, and the average production of meat per head is 15 kg. Annual production of goat meat (young goats, and meat of the mature and culled animals) is estimated at about 850 tons, and annual production of milk is estimated at about 5 thousand tons.

***Poultry Production***

Significant changes have occurred in the poultry production of Montenegro in recent years, ranging from creating numerous family farms for egg production, the expansion of broiler production, to the founding of slaughterhouses and processing capacities for this sector. Statistics do not register these changes in an adequate manner. This creates a great discrepancy between official static data and real production parameters showing tendency of growth over the last few years.

In the last few years, poultry production has constantly grown, above all with the fattening of chickens. According to the Ministry of Agriculture data more then 1,5 million broilers and more than 2000 tons of poultry meat in 2004 were produced. In the last few years turkeys are also bred in smaller percentage mainly for self-consumption, a fewer number is intended for market purposes.

Significant improvement is also evident in the production of eggs also. Besides one large farm (former public), capacity of 120.000 layers, a number of family farms were also founded, with a capacity of a few hundred up to few thousand layers. Intensive production in Montenegro today numbers about (according to the Ministry of Agriculture and Association of poultry farmers data) 250.000 layers in cage systems, which results in the production of about 75 million pieces of eggs. In extensive production on family farms, about 600.000 layers and other poultry species are grown, and the production of eggs estimates at about 60 million pieces, mainly used for household consumption.

Faster development of poultry farming, and especially poultry meat was caused by encircling production processes through foundations of animal feed, upbringing of parent flock hybrids and the foundation of incubator station and production of one-day chickens, foundation of contemporary slaughterhouses for poultry and development of processing capacities.

***Pig meat Production***

Pig meat production in general terms is an industrial sector of livestock production, but in Montenegro this productions is still not as important as cattle, sheep or poultry production. The existing fond, according to statistical data disposes of about 24.000 pigs, of which 2000 is breeding stock (breeding sows and boars), mainly crossbreds of landrace and Large Yorkshire, and a smaller number of breeding animals of Duroc and Pietren. The usual means for achieving better results in swine production, crossing and hybridization, are not planned. This is the reason why moderate results are being achieved when it comes to the number of bred piglets per sows and the daily gain.

A relatively small number of farms raise sows (about 500 of them), which produce about 15.000 of pigs per slaughter, with the average slaughter weight of 100 kg. Besides this, about 40 thousand young pigs for fattening are imported from Serbia every year. The total production of pork, according to live weight gained, accounts to 5.000 tons.

Swine production, and especially pig fattening, is mostly done in households, in few medium and only one large enterprise with 550 sows that annually produce about 6.000

fattening pigs. This is practically the only farm where professional knowledge about this exists.

Relatively expensive inputs for this production (mainly imported), and particularly low prices of live weight for this level of production, are not stimulating enough to develop this sector of livestock production.

***Horse Rearing***

The horse has not yet completely lost its place in the agriculture of Montenegro due to terrain features and the level of its development. It is still irreplaceable in some hilly and mountainous regions, not so much for tillage of fields, as for load transfer. The continuous depopulation of countryside, and especially higher application of techniques and mechanization, caused a marked reduction in the number of horses. Official statistics today register less then 10 thousand heads.

The most often bred horse is a domestic hilly horse because of the capabilities (endurance and strength for carrying burdens on extremely hilly and rocky terrains), but cold-blooded breeds also exist here, and even horses used for sport. In area of karsts (south and southwest part of Montenegro), mule and donkeys are raised, serving for the transport of loads.

***Beekeeping***

Beekeeping in Montenegro has a long and rich tradition. The presence of several climatic zones, large areas under grassland and pastures and ample karstic area with abundant flora and plenty of honey plants, provide favourable climatic conditions for the development of this economic sector. The importance of beekeeping lies not only in the production of honey and other bee products, but also in the role bees play in the pollination of plants, and that way they directly influence increase in the yield of various fruit, field crop, meadow and other cultures.

There is a data that in 1863 there were 18.450 beehives in Montenegro. This was the first available data on the number of beehives in Montenegro. Currently, according to the statistics of the Association of beekeeping organizations, there are around 35.000 up to 40.000 beehives, averaging 4 beehives per 1 $km^2$ at the territory of Montenegro. The majority number of beehives is privately owned.

Honey yields per beehive depend on climatic and other natural conditions for excreting of nectar, as well as on the type of beekeeping (stationary or migratory). With stationary beekeeping (share 60%) yield per hive amounts from 10 to 30 kg, and with migratory beekeeping (share 40%) production of honey amounts to 20-60 kg per hive. The total annual production of honey moves between 400-700 tons. Only a small per cent of this production is marketed through retailers, and most part is marketed on greenmarkets, or by the so called sales on the doorstep.

## 3 FOREIGN TRADE OF AGRO-FOOD PRODUCTS

Montenegro is a net importer of food products. The high dependency on food imports is shown in the share of agricultural products in total import which exceeds two times their share in export. Agro-food trade is growing continually. The import deficit is also growing.

*Table A.13: Share of Agro-food Products in Total Import/export of Montenegro; 2000-2004*

| | Total (€ mil ) | | | | | Agro-food products (€ mil) | | | | | Share of agro-food Products (%) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2000 | 2001 | 2002 | 2003 | 2004 | 2000 | 2001 | 2002 | 2003 | 2004 | 2000 | 2001 | 2002 | 2003 | 2004 |
| Import | 453,2 | 586,3 | 630,0 | 629,9 | 869,6 | 81,0 | 105,1 | 130,5 | 117,8 | 203,0 | 17,9 | 17,9 | 20,7 | 18,7 | 23,3 |
| Export | 170,1 | 216,3 | 274,0 | 270,5 | 452,0 | 7,0 | 15,2 | 16,7 | 23,7 | 56,5 | 4,0 | 7,1 | 6,1 | 8,7 | 12,5 |
| Deficit | -283,1 | -370,0 | -355,9 | 359,4 | 417,6 | -74,0 | -89,9 | -113,7 | 94,1 | 146,4 | 26,2 | 24,3 | 32,0 | 26,2 | 35,0 |

Source: Ministry of Agriculture, Central Bank of Montenegro.

Taking 2004 as the first representative year regarding availability of complete data on the commodity trade of Montenegro with other countries (including Serbia), the total exchange of agro-food products (groups 01 to 24 of combined nomenclature of custom tariffs) was € 259,5 million, and this deficit € 146,5 million. This deficit was evident in all product groups except tobacco (tariff 24). Import-export coverage of aggregate was at the level of 28%.

*Table A.14: Export/Import of Agro-food Products according toTariff groups in 2004*

| | Import | | Export | | Deficit | Import/export |
|---|---|---|---|---|---|---|
| Tariff | Value (€) | (%) | Value (€) | (%) | (€) | Coverage (%) |
| 01 Live animals | 1.929.076 | 0,9 | 86.187 | 0,1 | -1.842.890 | 4,4 |
| 02 Meat and offal | 19.229.423 | 9,5 | 1.685.805 | 2,9 | -17.543.618 | 8,7 |
| 03 Fish | 2.067.949 | 1,0 | 589.028 | 1,0 | -1.478.921 | 28,5 |
| 04 Dairy produce, eggs, honey | 19.546.002 | 9,7 | 55.473 | 0,0 | -19.490.528 | 0,2 |
| 05 Products of animal origin | 283.123 | 0,1 | 30.161 | 0,0 | -252.962 | 10,6 |
| 06 Live plants and floricultural products | 629.103 | 0,3 | 17.387 | 0,0 | -611.716 | 2,7 |
| 07 Vegetables | 2.093.579 | 1,0 | 1.742.326 | 3,1 | -351.253 | 83,2 |
| 08 Fruit | 4.200.462 | 2,0 | 1.318.152 | 2,3 | -2.882.309 | 31,4 |
| 09 Coffee, tea, spices | 11.780.119 | 5,9 | 150.787 | 0,1 | -11.629.333 | 1,3 |
| 10 Cereals | 9.812.151 | 4,9 | 582.580 | 1,1 | -9.229.571 | 5,9 |
| 11 Products of the milling industry | 9.118.202 | 4,5 | 282.104 | 0,5 | -8.836.098 | 3,1 |
| 12 Oilseeds and oleaginous fruits | 894.039 | 0,4 | 280.312 | 0,5 | -613.727 | 31,4 |
| 13 Rubber and resin | 62.993 | 0,0 | 317 | 0,0 | -62.676 | 0,5 |
| 14 Vegetable planting materials | 44.207 | 0,0 | 900 | 0,0 | -43.307 | 2,0 |
| 15 Fats and Oils | 10.434.629 | 5,2 | 181.514 | 0,5 | -10.253.114 | 1,7 |
| 16 Meat preparations | 13.037.719 | 6,4 | 504.103 | 0,8 | -12.533.616 | 3,8 |
| 17 Sugar and products | 10.892.351 | 5,4 | 1.511.663 | 2,6 | -9.380.687 | 13,8 |
| 18 Cocoa | 7.237.842 | 3,6 | 224.634 | 0,6 | -7.013.208 | 3,1 |
| 19 Preparations of cereals, flour or starch | 14.730.908 | 7,3 | 1.139.559 | 2,2 | -13.591.349 | 7,7 |
| 20 Preserved fruits and vegetables | 11.742.799 | 5,8 | 171.994 | 0,3 | -11.570.804 | 1,4 |
| 21 Miscellaneous food products | 11.133.088 | 5,5 | 4.053.635 | 7,3 | -7.079.453 | 36,4 |
| 22 Beverages, spirits and vinegar | 30.865.267 | 15,2 | 22.199.699 | 39,2 | -8.665.568 | 71,9 |
| 23 Animal feed | 3.998.929 | 1,9 | 611.220 | 1,0 | -3.387.708 | 15,2 |
| 24 Tobacco | 7.244.456 | 3,5 | 19.105.072 | 33,9 | 11.860.616 | 263,7 |
| **Total** | **203.008.412** | **100,0** | **56.524.612** | **100,0** | **-146.483.800** | **27,8** |

Source: Custom service of the Republic of Montenegro, processed by the Ministry of Agriculture, Forestry and Water management of the Republic of Montenegro

The breakdown of the total import structure is valued at € 203 million in 2004, major tariff groups being group 22 - *Beverages* (15,2%), 04 - *Milk* (9,6%), 02 - *Meat* (9,5%), 16 - *Processed meat* (6,4%) and group 19 – Preparation of cereals (7,3%). Among main agro-food products the most significant share is in group 20 - *Preserved fruit and vegetables*

(5,8%), 17 - *Sugar and products* (5,4%) and group 15 - *Fats and oils* (5,2%). These eight groups of products account for 65% of the overall import.

The import of individual products according to groups represents best the needs of the Montenegrin processing sector and preferences of domestic consumers. Within group 22 - *Beverages*, import of mineral and aerated water is prevailing (€ 20,9 million). The most important import products in group 04 - *Milk*, were fresh milk (€ 7,9 million), cheese (€ 5,6 million), yogurt (€ 2,2 million) and milk powder (€ 1,1 million). In group 02 - *Meat*, the major product was pig meat (€ 13,9 million), followed by poultry (€ 2,5 million) and beef meat (€ 1,8 million). Most of the imported products in group 20 - *Preserved fruit and vegetables*, were juices (€ 6,8 million).

The export value of agro-food products in 2004 amounted to EUR 57 million. Almost 3/4 of this value goes to two groups of products - *Beverages* (39,2%) and *Tobacco* (33,8%). Amongst beverages, the most important are wine (€ 11,4 million) and beer (€ 8,4 million). Other relevant exporting products are ice-cream (€ 3,8 million) from group 21 (*Miscellaneous food products*); mushroom (€ 1,6 million) from group 07 (*Vegetables*); smoked meat products (€ 1,3 million) from group 02 (*Meat*); chewing gums and toffees (€ 1,3 million) from group 17 (*Sugar*);and grape, peaches, tangerines and bilberries (€ 0,9 million) from group 08 (*Fruits*).

Montenegro's balance in foreign trade of agro-food products is only positive in tobacco (+€ 11,9 million), export amounting trice the import. Above average is the import-export balance of vegetables (83,2%), beverages (71,9%), various food products (36,4%), fruits (31,4%) and fish (28,5%). With other groups of products export-import balance is much lower and with most of the groups it does not surpass 10%. *Milk group* has the lowest balance (0,2%) and the largest deficit was created (-19,5 million €) within this group.

As far as the exporting/importing destinations are concerned, Montenegro's most important market is Serbia accounting for 66,3% of the total foreign trade of agro-food products. Serbia participated in the total imports with 56,6%, and in export with 87,3%. Trade with EU amounted to 23,5% EU members are important partners especially in import (29,4%), while their share in export is moderate (2,4%). A relatively great share is with Bosnia and Herzegovina (6,8%), and import of the group *other countries* exceeds (7,4%).

Positive trends with foreign markets occurred only in trade of agro-food products with Albania and Russia, due to the fact that the export volume with those countries was very low. Import/export coverage was relatively high in trade with Bosnia and Herzegovina (83%). The rate of export/import coverage with Serbia was 42,9%, while with the other EU countries it was only 2,3%.

*Table A.15: Export-import of Agro-food Products according to Destinations in 2004*

| | Export | | Import | | Import-export |
|---|---|---|---|---|---|
| **Country** | **Value (€)** | **(%)** | **Value (€)** | **(%)** | **Coverage (%)** |
| EU-15 (old members) | 775.472 | 1,4 | 39.898.538 | 19,7 | 1,9 |
| EU-10 (new members) | 573.649 | 1,0 | 19.823.174 | 9,8 | 2,9 |
| Albania | 841.625 | 1,5 | 240.112 | 0,1 | 350,5 |
| B I H | 3.829.822 | 6,8 | 4.595.446 | 2,3 | 83,3 |
| Bulgaria | 6.855 | 0,0 | 275.730 | 0,1 | 2,5 |
| Croatia | 425.293 | 0,8 | 5.715.854 | 2,8 | 7,4 |
| Macedonia | 223.306 | 0,4 | 2.345.658 | 1,2 | 9,5 |
| Romania | 30 | 0,0 | 190.630 | 0,1 | 0,0 |
| Serbia | 49.354.529 | 87,3 | 114.959.780 | 56,6 | 42,9 |
| Russia | 72.466 | 0,1 | - | - | - |
| Other countries | 421.565 | 0,7 | 14.963.490 | 7,4 | 2,8 |
| **Total** | **56.524.612** | **100,0** | **203.008.412** | **100,0** | **27,8** |

Source: Custom service of the Republic of Montenegro, processed by the Ministry of Agriculture, Forestry and Water management of the Republic of Montenegro

The general conclusion is that Montenegro is highly dependant on import with significant dispersion of imported product assortments. Analysis of the foreign market send a clear signal to domestic agro-food producers to work on the restructuring of production and to create conditions for eliminating deficits. A relatively small number of exported products

emphasize the problem of competitiveness of domestic products, considering the quality, price competitiveness and potential quantities that may be distributed outside the Republic.

# 4 CONSUMPTION OF AGRO-FOOD PRODUCTS

Montenegro consumer spending in agricultural products is represented according to data gathered through a Household consumption questionnaire.

*Table A.16: Agro-food Products Consumption per capita (all households)*

| PRODUCT (kg) | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Meat** (total) | 29,6 | 31,0 | 32,6 | 41,7 | 42,1 | 56,3 | 43,5 | 42,7 | 44,7 | 43,1 | 49,8 |
| Beef meat | 14,6 | 11,6 | 11,9 | 14,7 | 15,3 | 24,4 | 19,2 | 17,6 | 16,7 | 20,4 | 18,1 |
| Pig meat | 2,5 | 5,7 | 6,1 | 6,0 | 6,7 | 9,0 | 3,3 | 4,0 | 4,5 | 3,4 | 3,2 |
| Poultry meat | 2,6 | 1,6 | 2,1 | 3,8 | 4,2 | 7,1 | 7,1 | 7,4 | 7,3 | 8,8 | 9,3 |
| Sheep and goat meat | 4,1 | 3,5 | 3,3 | 3,6 | 3,4 | 4,2 | 3,1 | 2,3 | 3,3 | 3,3 | 3,9 |
| Other meat (smoked meat) | 4,4 | 6,6 | 6,4 | 7,4 | 9,3 | 6,9 | 6,5 | 7,2 | 8,2 | 10,5 | 9,7 |
| Remnants (other fresh meat and offal) | 1,4 | 2,0 | 2,8 | 6,2 | 3,2 | 4,7 | 4,3 | 4,2 | 4,7 | 6,7 | 5,6 |
| **Milk** (in raw milk equivalent) | 189,6 | 211,0 | 202,3 | 244,7 | 293,2 | 249,6 | 218,1 | 210,7 | 232,0 | 241,0 | 254,7 |
| Fresh milk and dairy products | 116,1 | 123,5 | 102,2 | 129,2 | 169,3 | 132,0 | 119,4 | 116,9 | 122,8 | 129,7 | 133,2 |
| Butter | 0,1 | - | - | - | - | 0,1 | - | - | - | - | - |
| Cheese | 10,5 | 12,5 | 14,3 | 16,5 | 17,7 | 16,8 | 14,1 | 13,4 | 15,6 | 15,9 | 17,5 |
| **Eggs** (in pieces) | 121,3 | 123,5 | 127,7 | 172,6 | 188,3 | 165,0 | 176,1 | 167,0 | 174,9 | 174,5 | 185,4 |
| **Sugar** | 10,4 | 9,1 | 13,3 | 13,0 | 13,7 | 17,5 | 15,5 | 14,8 | 14,8 | 14,0 | 14,6 |
| **Flour and bread** | | | | | | | | | | | |
| Wheat, rye and corn flour | 65,3 | 60,2 | 65,2 | 63,1 | 71,7 | 67,1 | 66,1 | 54,4 | 63,8 | 58,4 | 59,1 |
| All kinds of bread | 68,3 | 58,7 | 86,9 | 113,9 | 97,5 | 109,5 | 104,2 | 118,5 | 102,0 | 109,9 | 118,8 |
| **Potatoes** | 43,0 | 44,9 | 60,0 | 67,8 | 65,4 | 73,9 | 64,2 | 69,4 | 69,2 | 67,3 | 72,2 |
| **Fruit** | 31,4 | 42,4 | 38,5 | 45,6 | 59,8 | 64,3 | 59,4 | 57,0 | 65,6 | 64,2 | 65,8 |
| **Vegetables** | 102,7 | 80,6 | 95,4 | 127,8 | 134,5 | 138,9 | 133,4 | 131,9 | 139,7 | 136,1 | 146,8 |
| **Wine** (l) | 1,9 | 1,7 | 2,2 | 3,8 | 3,1 | 2,5 | 2,9 | 2,3 | 1,9 | 1,9 | 2,6 |

Source: Household consumption Questionnaire, Federal Statistical Office, Belgrade.

Growth of consumption per capita is recorded in all products, except in sheep and goat meat, which remained fairly constant. Beef meat was a major product within the meat consumption structure. Poultry meat records the most significant growth trends. In addition, a significant growth in consumption was recorded with other meat categories, including smoked meat products. Meat consumption grew at an annual rate of +5,3% in the period under review.

Milk consumption (total quantity in milk equivalent) moved between 200 to 300 kg per capita, reaching the peak level in 1996, and staying at the level of 250 kg since 2002. The increase in milk consumption, on an annual average rate of 3,0% emphasized the significance of this victual in consumption of the Montenegrin population.

The potato is also very important for consumption in Montenegro, consumption in last year compared to the base year increased by about 67,9%.

In the period between 1992 and 2003, the increase of fruit consumption is evident fluctuating from 35 kg to 65 kg per capita (109%), and also with vegetables, ranging from 102 kg to 146 kg per capita (43,1%). Wine consumption also registers a growth from 1,9 l (1992) on 2,6 l (2002) or 36,8%.

# 5 AGRICULTURE AND RURAL DEVELOPMENT

## 5.1 General overview and economic trends in rural areas

The opportunity to elaborate in detail on the aspects important for illustrating rural development and the role of agriculture in the process is very limited. The main reason is the lack of reliable (sometimes even basic) statistical data. In this regard it is necessary to build a more advanced data monitoring, at least on socioeconomic structure of the population and agriculture, income structure and allocation of employment on farm households; and all this, if possible, should be carried out at both the national and regional level.[5]

As we were aware of the problem with statistic indicators that would help us create a comprehensive picture on the overall situation related to rural development in Montenegro, in the frame of the project "Agriculture and Rural development Strategy", a questionnaire for rural households was developed aiming at representing as realistically as possible the economic position of agricultural producers, the role of agriculture in the employment and income structure of households, and to analyze comparative advantages that could represent the basis for elaboration of the strategy of further agricultural development. Although the survey involved a limited number of households, the authors believe that they have succeeded in identifying the problems characteristic of Montenegro as a whole, as well as those relevant for a specific region. Detailed analysis on the questionnaire data can be found in Annex A. Further on in the text a few comments on the subject are given.

According to latest available data from 2001, the share of population living in the countryside[6] accounted for 38% of the total population. A negative balance of migrations (around 1% in period between 1991 and 2001) and the growing index of age groups (from 33 in 1991 to 58 years old in 2001) indicate moderate depopulation of rural areas, and simultaneous ageing (considerable out-migration of young people). Negative demographic and economic trends are more specific of distant rural areas. These areas mainly lack a well-developed transport, sewage and social infrastructure, which indicate that these areas lack the basic prerequisites for social and economic development. Agriculture is the core primary (and sometimes the only) source of income and employment in rural areas. This is confirmed by the results of the survey on agricultural holdings. In the surveyed sample, 70% of overall income is generated from agriculture, while 46% of surveyed holdings created more than 75% of income from agriculture, and 22% of holdings generate all their income from agriculture.

Agriculture provides a significant proportion of employment. Official statistical data most likely underestimate the real influence agriculture has on the labour market. Montenegro lacks statistical monitoring systems to capture employment movement in agriculture[7].

Relatively low productivity of agriculture is also a common characteristic of this sector. This problem is even more emphasized in structural and market conditions in which most of the Montenegrin households function. The situation is driven by a number of factors, one of them being the low technical level of agricultural production, causing the need for physical labour to increase. Results from the survey clearly illustrate this. They show that about 60% of households use tractors, implying that 100 ha of land are processed with 6,6 tractors.[8] If we bear in mind that the surveyed sample is, to some extent above average - than this structure *technical equipment,* becomes even more unfavourable.

Part of the answer lies in the fact that the greater volume of labour force in agriculture is caused by reductions in industry employment. The main barrier to a more efficient sector is the low level of development of agro-food sector and insufficiently developed system of vertical linkages in the food supply chain, as well as the ineffective (atomized) system of distribution of agro-food products.

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[5] As Montenegro is not administratively divided into regions, five geographic regions may be used for statistical purposes (see Chapter 2.1.3.)

[6] OECD nomenclature of rural areas. Disproportion between rural and urban areas is based on population density on local (municipality) level.

[7] We may indicate two main factors that influence statistical follow-up of the employment in Montenegrin agriculture: (i) lack of reliable statistical information on persons with formal status of employment in agricultural holding (ii) great volume of work realized outside the formal systems of statistical monitoring (in particular work of household members)

[8] In comparison, in Slovenia 100 ha are processed on average with 23,5 tractors

Agriculture sometimes plays the role of social buffer for the most sensitive part of the population. This is the most endangered part of the population like old age households that only practice subsistence production, working population that was directly influenced by transition, in the sense that they have lost work in the industrial sector. The returning (activating) working force in agriculture, due to the closing of some working places in industry, is most emphasized in the peri-urban areas (Podgorica, Niksic, Danilovgrad, Bijelo Polje, Berane, Pljevlja).

Economic situation in rural areas is unfavourable. Most part of the rural areas has poorly developed transport system, social and economic infrastructure. If we illustrate this claim with the results of the survey, we find that the food shops and elementary schools are located 3-4 km, and secondary schools 10 km from households, on average. The distance of the bus stop is 2,5 km, and post office about 7,5 km. These average results are not so unfavourable if they do not prove to be so volatile. Thus, there are village areas, households that supersede distance from towns of 50 km. About one third of the surveyed households observed the distance as a great obstacle to development.

In general, quality of life in rural areas is at a low level and job opportunities are limited. In some areas, we may speak about serious social and economic degradation, which results in poverty. This is highly emphasized in areas distant from city centres; where intensive depopulation exists, in certain cases the villages are almost completely deserted. This resulted in the closing of schools, shops or even village health stations, and impoverishment in general. In addition, the economic situation, at least in remote rural areas, will continue to decline and out-migration will still be present, if more attractive life and economic surrounding are not provided.

## 5.2 Structural Features of Agriculture

### 5.2.1 Farm Structure by Land Size

One of the main characteristics of the agricultural structure in Montenegro is that in the last decades it has remained relatively stagnant. This is opposite to the prevailing trends of European countries, where the number of farms declined, along with intensive technological advances, while the concentration and specialization of agricultural production increased. This kind of structural changes in Montenegro represent more of an exception than a rule. Agriculture in Montenegro is still experiencing problems with fragmented land and ownership structure, the poor level of technology, which causes a low level of productivity and a low level of incomes for people employed in this sector.

Unfortunately the latest available data on structure of agricultural households date from 1991. According to them the average size of farms is highly unfavourable, since those whose area does not exceed 8,9 hectares dominate. Compared to the EU members, similar farm structure are in Slovenia and a few of the Mediterranean countries (Greece, Portugal), while the average size of farms in other member countries is notably larger. The average farm size in Montenegro is similar to the farm structure in prevailing part of the countries of South-East Europe. Unfavourable farm structure in Montenegro is accompanied with low level of production potential of agricultural land (90% comprise meadows and pastures, natural conditions for agriculture are limited).

Official statistical data on what happened with the number of agricultural households and their size do not exist. Taking into account the significance of agriculture as a conciliator of social tensions, it is to be expected that no significant changes in the agricultural land structure occurred. This partly confirms the results from the survey. Average size of agricultural land of the surveyed farm households, which included farms above the state average, amounted 9,95 ha. Among the surveyed households, 14% were above 20 ha. Those household dispose of or process 41% of agricultural land in the surveyed sample. 26% of households had land areas between 10 and 20 ha, which represents 38,0% of surveyed samples. The group of the households that dispose of 5 or less ha in surveyed sample, represents 44% of households, and by area less than 10%.

### 5.2.2 Agricultural Holdings by Farm type

Structural as well as natural conditions influence most the dispersion of types of the agricultural holdings according to production type. Taking into account the structure of the agricultural land and natural conditions, it may be emphasized that conditions in a large part of the country are mainly suitable for livestock or at least combined livestock-crop production. This is confirmed by the results from the surveyed samples that included agricultural holdings on main pedoclimatic types in Montenegro. Among the total number of surveyed households, 55% of them predominantly manage livestock production, and the rest of 45% oversee crop production activities. Characteristic differences between regions exist. If we analyse the volume of agricultural production and the volume of sales of products on the market (crop and livestock), we may conclude that Northern mountainous, Polimsko-ibarski and Karstic Region, is predominantly livestock production oriented (in these three regions the only significant crop production is potato production): in Zetsko-bjelopavlicki region these two productions are balanced, while in Coastal region crop production prevails (fruits and vegetables).

Results of the survey indicate a correlation between the production orientation of agricultural holdings and the volume of income generated in agriculture. So livestock holdings belong to a group of entirely agricultural holdings (all income is generated in agriculture), or to the type of mixed holdings (where more than half of the total income comes from agriculture). In supplementary type of agricultural holdings (less than half of total income of holdings is from agriculture) holdings with crop production prevail.

### 5.2.3 Technical Equipment in Agricultural Holdings

The general estimate is that the agricultural households in Montenegro are moderately equipped with mechanization. According to some expert estimates, not even every other household owns a tractor as one of the key instrument of mechanization. In surveyed households, tractors, side-cars, attachable parts for tractors and other working machines (the most frequent are motor-cultivators with attachable parts), amounted to about 60%. Only 45% of households dispose of different devices and equipment for households (milking machines, refrigerators, equipment for wine production, for honey production, irrigation system, pumps, mills, and wine equipment).

There are no great obstacles to the technological modernization of agriculture that would enable better efficacy and quality of agricultural production. This is evident from the experiences of various investment programs of support, where with relatively small financial means for basic technologic mechanization (machines and equipment), excellent results were achieved. To illustrate good practice, we can name the example of direct investment of foreign donations in dairy equipment (milk pipes and milk refrigerator) on agricultural households. This kind of practice, with the enlargement and modernization of local dairies, significantly contributed to increasing the volume of market production of milk on agriculture households, and along with this the income from the sales of milk.

### 5.2.4 Market Orientation of Agricultural Holdings

The volume of market-oriented production on agricultural holdings in Montenegro is relatively low. However, there are significant differences between individual sectors, and certain distinctions might be noted between different regions. We will now mention the results of the survey that included all production orientations in agriculture in Montenegro, while the regional structure of the sample of agricultural holdings was proportionally comparable with their total number.

There are two main streams in the livestock marketing world. These are the marketing of live animals and the marketing of animal or processed products .

As far as the volume of production and marketing of live and slaughtered animals is concerned, results of the survey show that, for example in cattle production, 90% of the market surpluses of cows and older categories are sold on the market and of calves 82%: and the rest is consummated in the household. We must emphasize here that younger beef categories up to the age of 12 months prevail (with almost 90%). This kind of correlation between the marketing of younger and older categories is proof that farmers are willing to

sell calves to the market, and that they rarely resolve to fatten them. The reason might be found in low prices of older heads, bad organization of buy up, and the lack of animal feed (silage) for cheap and efficient fattening.

Sheep and goat production, although very extensive, are traditionally market-oriented. Practically all lambs and kids except for breeding, are sold on the market (92%), and about 8% is used for self consumption. Poultry production is extremely market-oriented and 98% of the broilers sold at the market.

The other very important way of livestock marketing is sales of animal products and processed meat. 50% of dairy farms distribute raw milk. This is only the case with the surveyed sample of households, since the share in the total population of Montenegro is much more unfavourable. According to data provided by the Ministry of Agriculture, Forestry and Water Management and the register on the raw milk in dairies, only 10 and 15% of the total raw milk production is directed to dairies. If the volume of sales on the market of raw milk is compared to regions we can conclude that over 40% of total amount of raw milk is sold in Zetsko-bjelopavlicki region, and a little over 30% in Karstic region (Niksic and Cetinje). The predominance of these two regions in the marketing of raw milk is the result of the existence of processing capacities (dairies) in these regions.

On-farm processing generally, especially milk is extremely developed. In areas where there is no, organised milk collecting, or where collecting is badly developed, overall milk is processed into different kinds of cheeses, and than sold to the market. If we compare the volume of raw milk sold to dairies, and the volume of on farm processing of milk to cheese, we may conclude that there is a reversed proportion between the organized buying of milk and the volume of cheese processing. Sheep and goat milk are mainly processed in farms and sold to the market as processed products. The main processed products are cheese and skorup (specific type of fat spread made from butter), while goat milk is processed into cheese only.

Field crops production for marketing occurred only in 20% of households. Crop production is mostly aimed at livestock consumption or household consumption and only 8% of the total production is sold on the market.

In comparison with crop production, vegetable production is market-oriented in more than one half of the households, and about 90% of the total vegetable production is sold to the market. Potato is the dominant product in this sector (with 55% of total sales).

Subtropical fruit production is mainly market-oriented, while continental fruits are almost always difficult to sell, partly because of the distance, and partly due to the lack of a labour force, equipment and the like, so they are often underused. When we consider the production and trade of grape, a significant amount is processed on farms, so one part of it is sold in form of products - wine and brandy.

The most extensive kind of supplementary activities in agricultural holdings in Montenegro is the processing of agricultural products.[9] Added value on agricultural product significantly contributes to the income of agricultural holding and creates opportunities for better utilization of the working force.

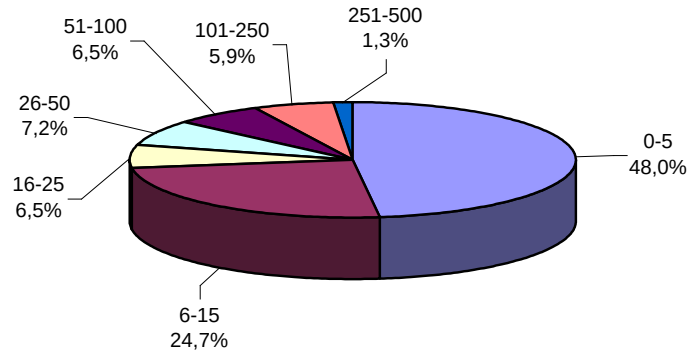
[9] Analysis of the results of the survey confirms that supplementary activity was present at about 40% of the total number of holdings. Fruit and vegetable processing and processing of food of animal origin are the most extensive activities on fazrms. Services with agricultural machinery follow.

# 6 FOOD PROCESSING INDUSTRY

Primary agriculture was a key component of the overall agro-food system of Montenegro, which is characteristic of most transition countries and undeveloped economies. This implies that the finalization of the agricultural products is at the low level, the share of the self-provision with food of the rural population is large, and the marketing of the agricultural produce through unregistered channels is increased.

according to data provided by Monstat (2004) the food processing industry in Montenegro generated about €83 million of gross domestic product in 2002, which is about 6% of total GDP. Nearly one-fifth of a total came from tobacco production.

According to available data provided by the Ministry of Agriculture (Questionnaire on entities in agriculture/food processing industry, 2003), the total value of food processing industry amounts to €203 million.[10] The sector of meat processing and preserving of meat represented more than half of the value. This large discrepancy points to unreliability of statistical data that probably don't include new private companies that came into existence over the past few years.




Source: Ministry for agriculture forestry and water manegement

*Chart A.12: Structure of enterprises in Agro-food Industry by number of employees*

According to the same analysis, this sector generated 6.266 jobs, of which 824 were temporary ones. Tobacco industry has the largest share of employees (20,2%), followed by bakery production (15,9%), and beer and brandy production (14,0%).

Montenegrin food processing industry has an unfavourable structure of enterprises by size. About 70% of enterprises employ less than 15% workers, and only four enterprises employ more than 250 workers . The average number of employed people is less than 40, and the medium value only 6.

In the last few decades, there has been a growing tendency of concentration and the rapid growth of enterprises in the agro-food sector in the EU and in other developed countries of the world. Motivation for the growth in the number of enterprises is due to the positive effects of the economies of scale, above all, as well as in the opportunities to be competitive with the concentrated and global trading market.

Due to the lack of official statistical data, it is not possible to determine tendencies in the industrial structure of Montenegrin agro-food sector, and based on the survey general trends are oriented to fragmentation, which is extremely negative from the aspect of economic efficiency and competitiveness. Unfavourable structure of enterprises unfavourable technical equipment negatively influences competitiveness of agro-food industry. In order to

[10] Opportunities to describe agro-food industry are very limited, since there is a lack of basic statistic data. Namely, in order to record the situation in the sector it is necessary to systemize basic economic indicators (index of production volume, added value, income, employment, industrial structure) according to disaggregated activities (NACP classification). In the context of the analysis of the current situation of Montenegrin agriculture, survey was carried out on the selected sample of agri-food enterprises, that would identify the main economic features of the sector. Results of the analysis are given in Annex B, and in this section we will only show general comments of economic situation in agro-food sector in Montenegro.

gain competitiveness it is necessary to achieve technological modernization that would result in improving economic efficiency and quality of products.

The main problem, largely influenced by the low level of technological equipment of agro-food operations in Montenegro, is the introduction of international sanitary-hygienic standards. The EU has established an intensive system of control of food quality and conditions under which agro-food market might be entered. Mission estimates that there is not only a lack of standards at the level of enterprises, but also in the implementation of the system of control of food quality. Laws and regulations are not harmonized with EU regulations, and this is a process that demands significant activities at the level of institutions. The most pressure being put at the level of enterprises that should invest in order to surpass bottleneck production while implementing sanitary-hygienic standards.

There are significant challenges to be met in improving the competitiveness, and two most important ones are: a) improvement of competitiveness of quality food products with adequate prices and b) stable partners - buyers of raw material in the food processing industry of domestic chain.

Besides the general characteristics, in the following part we will examine the characteristics of individual sectors of the agro-food industry.

**Milling and bakery industry.** Montenegro lacks domestic potentials in primary raw materials, but capacities for processing raw material imported from Serbia and other countries do exist. Major enterprises in milling industry possess capacities that could satisfy most of the current needs in Montenegro. Mills in the past confronted with problems of unfair competition (unfair competition of flour from the surrounding countries).

The available capacities for production of bakery products completely satisfy the needs of domestic consumption and according to estimates, they are ready to enable increased production. Bread still represents the most important category of the bakery industry. This industry is facing challenges characteristic the part of other food processing sectors (regardless of the existing sanitary/technologic standards and normative, fiscal indiscipline, irregular payments, grey economy).

**Milk processing.** This industry absorbs a small part of the primary production of milk (estimates are about 10 or 15%). Conditions for milk processing are specific and limited (low competitiveness, low capacities and standards of the processing operations). Nevertheless, few operations for the production of the various milk products were set-up in the last few years (although their capacities are relatively small compared to EU standards) for production of different products (different fermented products, UHT milk, cheeses). Representatives of the industry emphasize the problem of dumping presence of milk and products from Serbia.

A major role in provision of milk products is played by green markets and direct sales, which could become an important trade channel. Establishing specific sanitary normative for those products could help strengthening their market role (hotel management and tourism, export).

**Meat industry.** This sector witnessed some positive trends in production volume and product assortments. There are a few important entities that have increased their capacities and expanded their assortment. Sanitary-technologic conditions with new operations are at the relatively solid level and those operations could respond to the needs of local market. Procurement of primary raw materials is very specific - almost all quantities of pork are imported (EU), poultry meat production is limited, and beef meat (especially for confection) and lamb meat are of domestic origin. Regarding the lamb meat, real possibilities for more intensive and broader trade exist, since Montenegro has clear comparative advantages and natural conditions for this livestock sector. Market demands of the EU for lamb meat are evident, and more than one third of requirements are covered with import. There is a real potential for lamb meat export on foreign markets, but at the same time there are great challenges and barriers that must be superseded.

There are certain potentials for intensification and export orientation in processing of fish. There are operations for preparation of fresh fish in Montenegro that have started with exporting activities but the volume of production is still moderate.

**Processing of fruit and vegetables.** Production of these food products has been at a low level in the last few years, because of current difficulties within industries. Existing production of primary raw material (industrial fruit and vegetables) is of a limited volume, due to unresolved issues of collecting. In recent times, processing and distribution capacities

for fruits and vegetables have been adapted, but the production has not yet significantly increased.

**Production of beverages.** Production of wine is one more sector were optimal trends in beverage production are registered. Moderate positive trends are evident in beer and alcohol beverages production also. Production of non-alcohol beverages and water is difficult to market. The production of beverages (especially non-alcohol beverages and brandy) confronts the problem of the existence of domestic products that do not comply with regulations. Lately, there has been some interest for packaging of spring water and two new companies have begun with production, and few of them got a permission to use springs.

**Tobacco industry.** Capacities are concentrated in one company that faces numerous problems: grey economy, difficult financing conditions, and unresolved privatisation issues.

**Production of concentrated animal feed.** Although production is based on imported raw material, this sector has great influence on development of intensive livestock production. Two larger producers have significant capacities and integrate successfully their production in higher repro-chain (eggs, poultry meat, and pork).

# 7 AGRICULTURE AND ENVIRONMENT

## 7.1 Biodiversity and Genetic Resources in Agriculture

***Biodiversity in Montenegro***

The wealth and diversity of living organisms - biodiversity is a recognizable characteristic of Montenegro. Compared to other countries, Montenegrin biodiversity is one of the largest in Europe (S/A = 0.827[11]).

Ecosystem diversity is a significant component of biodiversity in Montenegro, within which areas with extremely large concentration of species, or biocentrism or hot points of diversity, can be identified. Various elements of flora and fauna, starting with sub-Mediterranean thermopile vegetation, over mesophile, xenophile or frigophile deciduous forests, up to evergreen forests of Euro-Northern-American regions with various biological species, exist in Montenegro. On mountainous chains, high-mountainous vegetation is present with elements of Alpine-High-Nordic region.

Endemic and relict species and ecosystems that are of a special value for Montenegro, are dispersed only at the territory of Montenegro or are present at the territories of neighbouring republics and states, and are of global importance. The level of biodiversity is highly influenced by fresh water and sea systems.

Part of the natural wealth is in wild mushrooms, present in various ecosystems. The number of familiar and analyzed species and sub-species is a little above 900, growing by 20 to 40 species and sub-species a year.

According to available data out of a total of 3.250 species of vascular flora in Montenegro, 20% is endangered.

***Plant genetic resources for agriculture***

The Biotechnical Institute is involved in collecting, maintaining and researching activities related to plant genetic resources in agriculture.

The Centre for vineyard, wine production and fruit production of the Biotechnical Institute from Podgorica possesses one of the richest collection of domestic, adapted and introduced species of **wine grape** in the Balkans (491 genotype-species). The Institute is currently working on the introduction of new significant species, clones, on their examination, propagation and collection, along with the regular maintenance of the collection on the experimental field; all this in order to maintain plant genetic resources, their genetic variability and usage of genetic resources in plant breeding processes.

The Centre for continental fruits, medical and aromatic herbs in Bijelo Polje researches 6 **fruit species** on different localities (Apple - *Malus domestica*, pear - *Pyrus communis*, plum - *Prunus domestica*, cherry - *Prunus avium*, cherry plum - *Prunus cerasifera* and nut - *Juglans regia*) with about 35 accessions. Collecting of drain is also in plan. Activities related to the collecting of medical and aromatic herbs in territory of Montenegro are also planned. Inventories were made at few localities, as well as herabrium collection. The Center for subtropical herbs maintains three fruit species (Olive – *Olea europea*, fig – *Ficus carica L.,* dog rose – *Punica granatum L.),* with 44 accessions.

The Biotechnical Institute owns a collection of 200 cultivated and wild species of **wheat**. A significant part of it are autochthonous population from Montenegro (113 samples), of which 47 samples were collected in other parts of former Yugoslavia (Herzegovina, Krajina, etc.), while 40 samples came from Italy. About 8 genotypes were collected from **potato**, and intensive work is being done on listing and collecting the genetic material of beans, tomato, onion and brassicaceae.

7 genotypes of fodder *Medicago sp.* have been collected up to now. These activities will be continued in future, but they will broaden out to other forage plants.

***Genetic resources in livestock production***

[11] According to Dobris Assessment 1995 and Stevanovic et al. 1995. index S/A = log (A) represents ration between a number of species of vascular flora and the size of the country's territory.

Montenegro, in a relatively small area, has a significant number of populations of almost all cattle breeds grown in the Balkan area. All these populations regarding their genetic and phenotype traits are very specific and small in number. Some of them exist in very small number, and therefore are endangered.

Specially endangered breed is autochthonous beef **busha**. Original busha exists in small numbers; there are only a few dozens or few hundreds of them and only in remote areas with week communications and in unfavourable conditions for feeding.

In sheep production, **zetska zuja** is the most endangered breed of Pramenka in Montenegro, threatened by complete extinction. There are only 100 to 200 heads. The main feature of zetska zuja is their remarkable resistance and adaptition to breeding in arid and dry areas.

In more favourable position is **ljaba** and **bardoka**, while vasojevicka ruda almost completely became sjenicka and it is very difficult to find samples of this breed.

**Pivska** and **sjenicka pramenka** are not endangered with extinction, but they are endangered by crossbreeding, because of the uncontrolled mating with other breeds. A similar situation exists with domical **balkanska koza**, especially some of their varieties, which is not currently under threat, but because of the often and uncontrolled mating with highly productive breeds it might be endangered.

A significant decline was recorded **domestic hilly horse and donkey**, while the domestic pig has completely disappeared.

## 7.2 Agriculture and Preservation of the Environment

There is a very urgent problem of land preservation in Montenegro, and the reason is that there is a very small area of deep fertile land in lowlands, while the allocation and structure of utilized land is unfavourable. Total lowland area represents about 5% of the territory of Montenegro, which makes up 70 thousand hectares. In 1992, the Republic Law on agricultural land was enforced (Official Gazette of the Republic of Montenegro, No. 15/92 and 50/92), regulating the protection, utilization, improvement and reform of agricultural land as a natural resource of general interest.

An overview of the total application of agro-technological measures in agricultural production indicates that the application of artificial fertilizers and chemical means in Montenegro is well below average. Agricultural households belong to small-scale, traditionally extensive households, which imply that the use of chemicals is at the lowest possible level. The economic crises in last 15 years influenced that the level of usage of pesticide and artificial fertilizers is still in decline. All the abovementioned contributed to preserving land and water resources from pollution caused by the application of artificially synthesized chemical means in agricultural production.

The use of mineral fertilizers fluctuates between higher (300-400 kg/ha) in zones of intensive vegetable production, to minimal or no use on larger areas of hilly-mountainous zone. At the area of Zetska ravnica where intensive application of Sodium fertilizers in plant production is very frequent, the level of Nitrate has increased. However, not one of the analyzed soil samples contained Nitrate Sodium over the maximum allowed limit of 130 mg/kg. The presence of hard metals in lowlands of Montenegro is at the level of normal, average values, so this land can be assigned as unpolluted[12].

Water resources are presently abundant and their quality has been and continues to be pristine. Nevertheless, some issues concerning water resources do exist. One of the problems are continuous overflows and the need to regulate the water regime of the Skadar Lake and the Bojana River, at the same time taking into account the relation - agriculture, environment protection - energy. Besides these, there are still some important areas that are in demand of hydro-melioration in the sense of drainage or protection from floods. These are lowlands around Plavsko jezero, part of the areas in the basin near Niksic, some areas in Mrcevo and Tivatsko polje.

Intensive industrial and urban pollution of water is especially evident in the Moraca, Cehotina, Zeta and Skadarsko jezero.

[12] Source: Center for Land research and Meliorations of the Biotechnical Institute in Podgorica

Regarding the level of intensity, agriculture cannot be considered to significantly pollute the environment. Montenegrin areas are still well preserved from pollution of air, water and land, except from small municipality areas of Pljevlja, Podgorica, Niksic, Bijelo Polje and Berane, where the level of pollution is influenced by industrial factors, like hydro-plants, exploitation of mineral raw materials, communal sewage, etc. However, besides a few industrial centres located in five municipalities, there are still areas untouched by civilization, which implies that the greater part of Montenegrin territory is ecologically clean.

In many areas, especially in the hilly-mountainous part, that has some limitations in intensity of agriculture there are favourable conditions for the development of agriculture. Development of organic agriculture is at the very beginning and all activities up to now were directed towards creating normative and institutional prerequisites for complete affirmation of this type of production, and through it for affirmation of the comparative advantages of ecologically pure, natural and agricultural resources of Montenegro.

# 8 INSTITUTIONS IN AGRICULTURE

## 8.1 Ministry of Agriculture, Forestry and Water management

The Ministry of Agriculture, Forestry and Water management as a governmental body of the Republic of Montenegro is responsible for proposing and implementing policy for agriculture. The Ministry proposes to the Government the share of subventions and other incentives (Agro-budget) in total budget of the Republic, as well as a series of other documents, acts and regulations, necessary for the harmonized functioning of agriculture in Montenegro. Ministry takes care of the implementation of health control of animals, follows market conditions and price trends of the basic agro-food products, and enforces legal matters related to this area, as well as inspection control in agriculture.

The Ministry is divided into three sectors: Agriculture Sector, Forestry and Hunting Sector and Water management Sector, as well as Department to follow up incentive measures, prices and market, Unit for normative legislation matters in the field of Veterinary, the Unit for prosecution and Service of general affairs.

The Agriculture Sector deals with the following issues: current and developmental policy, normative activities, administrative surveillance and law implementation and other regulations in area of agriculture and agro-industry through two departments: Department for agriculture and Department for Inspection Surveillance.

***Veterinary directorate***

The Veterinary Directorate is a special organ under the authority of Ministry of Agriculture, and is responsible for conducting managerial and related expert services such as: follow up and early diagnosis of transmittable diseases, prevention, suppression and eradication of specific transmittable diseases with animals, conducting veterinary, preventive, diagnostic and other research in the Republic; trade of all live animals, products of animal origin, animal feed in internal trade and trade across the border of the Republic. It is also responsible for conducting issues related to public interests, determining fulfilment of veterinary-sanitary conditions for veterinary purposes and for monitoring other activities in buildings where production, identification and registration of animals is conducted, developing programs of annual monitoring and prevention of transmittable animal diseases and zoonosis on the territory of the Republic. Veterinary Inspection is part of the Veterinary Directorate.

The Specialist Veterinary Laboratory was founded as a public institution owned by the state and is under the authority of the Veterinary directorate. The Laboratory is responsible for the activities related to specialist-diagnostic and research activities on the territory of the Republic of Montenegro aimed at protecting and improving the health condition of animals, protection of animals from diseases and other illnesses, discovering and diagnosing animal diseases, conducting programs of animal health protection, controls in order to secure health standards of raw materials, food and products of animal origin, feed and water for animals, research work, veterinary education and public awareness and other.

## 8.2 Education, Scientific and Educative Institutions

***Biotechnical Institute***

The Biotechnical Institute in Podgorica is a member of the University of Montenegro and conducts educational, research-scientific and expert service activities in the field of agriculture.

Education at the Biotechnical Institute is a new activity at the Institute. From the middle of 2005, within the Institute, a Study program for Agriculture started with two departments: Plant and Livestock production.

Research-scientific activity is carried out through the organization of fundamental and applied research in the field of fruit production, vineyard production, field crops production, plant protection, livestock production, agro economy, veterinary, forestry, fresh water fisheries and protection of the environment.

Expert activity of the Institute is carried out through extension services (consulting and projecting) and a wide range of laboratory services to third parties; organization of specialist trainings, fairs, exhibitions, etc.

Organizationally, the Institute consists of ten scientific research centres: Centre for agricultural economy, Centre for Land and Melioration, Centre for Forestry, Centre for Plant Protection, Centre for Crop fields and Vegetable production, Centre for Livestock production, Centre for Veterinary, Centre for Vineyard and Fruit production, Centre for Subtropical fruits and Centre for Continental fruit growing, accompanying laboratories, two experimental holdings and three services financed by the Ministry of Agriculture: Livestock Selection Service, Dairy Laboratory and Extension Service in Plant production and Phytosanitary service - in foundation.

**Cattle Breeding Service** is a unique service for the complete territory of Montenegro, and is founded in the Biotechnical Institute. It comprises 6 regional centres that cover all municipalities in the Republic. Selection service works on several activities: labelling of heads, birth control (so-called "Z" control), dairy control, program of artificial insemination of cows (selection of seed and control of the implementation), selection of bulls for propagation, expositions of breeding cattle, realization of the projects and incentive measures financed from Agriculture budget (development premiums, fattening of calves, program young farmers and so on), giving expert advice to farmers.

**Dairy laboratory** functions within the Biotechnical Institute and is aimed at improving the quality of milk products in Montenegro. The new laboratory has a corresponding capacity for milk and product analysis for the current needs of producers and processors in Montenegro.

**Extension Service in Plant production** covers the complete territory of Montenegro and is organized in five centres: Bar, Bijelo Polje, Berane, Niksic and Podgorica. The aims of the service are the improvement of plant production in yield and quality of products. The basic working method is giving expert advice, recommendations and directions to farmers in the field, as well as organizing educative round tables with plant production topics.

***High-school Education***

High school education in Montenegro can be gained in five schools for agriculture, food processing and veterinary, where students are educated for agricultural purposes. Only one of them is vocational (high-school in Bar) while most of them are mixed schools. These vocational schools exist in Podgorica, Berane, Andrijevica and Savnik up to now. These schools educate agricultural technicians of different profiles (field crops technician, fruit production technician, vineyard production, vegetable production, livestock production, veterinary, milk production, tobacco production, meat production, bakery technician, etc.).

The number of students in specialized high schools, especially agricultural sciences is in decline. Reform of high school education is in progress and new programs are being developed, and the old ones are being reformed.

## 8.3 Non-Governmental Organisations

***Cooperative Union of Montenegro***

The work of the 61 cooperatives in the Republic of Montenegro is coordinated by Cooperative Union, since it is burdened with mortgage from earlier period. The Union is in institutional and financial crisis. Law on cooperatives treat the cooperative as an organization of physical persons without developed mechanisms of capital investment in cooperatives, and founding capital is also not regulated (the only source of capital are the cooperative shares).

The activities of the Union are related to providing assistance to cooperatives, in the field of legal status and their assets, as well as in the field of development, marketing, organisation and, cooperation.

***Association of Agriculture, Food processing and Tobacco industry in the Economy Chamber of Montenegro.***

The Economy Chamber of Montenegro is an umbrella organisation that protects the interests of all economy subjects in the Republic. In the frame of the Economy Chamber are special associations for the complete food chain. The association includes different enterprises. The role of the Association is to provide assistance to members of the association.

The aims and assignments of the Association are: to follow and analyse economic movements in these sectors, to propose measures to improve working conditions and business conduct of their members, to participate in the preparation of the measures of the economic policy and strategy of further development, to conduct activities related to connecting economic subjects and improvement of cooperative relationships: to participate in development and defining mechanisms for the protection of domestic production; to provide initiative and propose measures to resolve monopoly situations on domestic market and to participate in the development and preparation of collective contracts.

***The Association of Agricultural Producers***

The Association of Agricultural Producers is an umbrella organization uniting professional associations of agricultural producers in Montenegro. This association includes 40 other associations which, more or less, involve producers of the same sectors of agricultural production. As some association disappears and others appear, it is very difficult to review them according to municipalities. Most of the Associations are registered as non-governmental organizations.

There are a few specialized associations, like Union of bee-keeping associations united in the Union of the Beekeeping Organizations, Association of Tobacco producers, Association of Protected areas producers, Association of Poultry producers, etc. There is one Association of the Veterinary in Montenegro that unites veterinary workers in Montenegro on a voluntary basis, and is registered as a NGO; as well as much other association functioning like NGOs which promote the production of healthy food, organic production, and protection of environment.

# 9 AGRICULTURAL POLICY

## 9.1 Concept and Aims of the Policy

Agricultural policy in the past was closely related to the general political frame and role of agriculture in this concept. Prior to 90s the emphasis in government support was on social sector, administrative price system and strict control over trade. This policy concept remained through the first phase of transition. In political turbulences and especially in the period of economic sanctions in the 90's, the country was forced to control many sectors, using further price and import controls. Over the period 1999-2000, a great turn-over in former policy took place and principles of liberalization were introduced. Since the middle of 2001, all agro-food prices are formed on a free basis. Liberalization started in most of the sectors and caused also some negative effects as regards the ability and development of some sectors.

Agricultural budgetary policy after 1991 was significantly production oriented. Besides incentives in food production, growth of total agricultural production and quality improvement of the products; programs of budget support were aimed at increasing income of farmers and stimulating rural population to work in agriculture.

Major component of agricultural policy was the recovery of and making viable specific sectors (production of early vegetables, Mediterranean fruits etc.), whose volume, compared to previous period, significantly declined due to economic sanctions and loss of markets. In addition, building basic market infrastructure and establishing stronger connections between primary production and processing, had an important role in measures implemented through budget support.

It was also envisaged to give stronger budgetary support to less productive sectors and productions in less favoured areas. This is the main reason why numerous programs in sheep, goat and cattle production were introduced, along with program of olive production development in the north of Montenegro, program of old-age grants and young farmers insurance, and why more investments in infrastructure were made. A very significant role was played by programs of institutional support for agriculture through financing of expert services and foundation of new laboratories, building capacities of inspection service, as well as the training and specializing of agronomists and veterinary employees. Support programs in the last five years were financed from two basic sources: international donations and budget for agriculture.

## 9.2 International Donations

Since 1999, agriculture in Montenegro had significant international support. Different means of support contributed in undertaking and accelerating certain levels of reforms in agriculture: new laboratories were founded and existing ones were modernized, support was given for organizing of farmers, new technological solutions were implemented in a number of sectors of agriculture and the food processing industry. It is very significant that a great number of local experts have gone through courses and specializations for specific areas of agriculture.

*Table A.17: International donations for Agriculture support*

| Project | Beneficiary | Value |
|---|---|---|
| Donations in agricultural goods: | | |
| - Wheat and grain maize | USA | €3,6 mil. |
| - Heifers, technological equipment for dairy production | EU | €2,1 mil. |
| - Mineral fertilizers and agricultural mechanisation | Japan | €1,1 mil. |
| Development projects aimed at certain subjects: | | |
| - Luxemburg projects | Luxemburg | ≈ €6 mil. |
| - PSO projects | Holland, Italy, Germany, etc. | |
| Technical support for development of different agricultural segments | | ≈ €1 mil. |
| USAID projects for development of rural areas through investments in specific infrastructure projects | USA | ≈ €1,5 mil. |

| | | |
|---|---|---|
| EU projects for capacity building aimed at implementation of agricultural policy | EU | €2 mil. |

The presented table may lead to the conclusion that international projects played an important role in development of Montenegro's agriculture. However, with all benefits arising from international projects, their influence on the aggregate level and structure of agriculture may be assessed as limited. Demand of beneficiaries that final users of donated goods must pay off and later form so-called floating funds for further investments; as well as the limited number of support recipients, lowered the complete influence donations had on this sector, especially since this support was not accompanied by budget investments. It can be concluded that donations were more of a contribution to investments in agriculture, support for capacity building, than support for regular production for which more investments from the budget were designated.

## 9.3 Agricultural budget

The agricultural budget ("agro-budget") comprises a set of incentive measures in form of irredeemable payments deriving from the total budget of Montenegro and envisaged for agricultural development. The budget incorporates budget lines (programs), so that all necessary elements (aims, agencies for implementation, timelines, results, cost structure, description) are elaborated in detail. Agro-budget goes through parliamentary procedure, is implemented at the Government level, and published in the Official Gazette of the Republic of Montenegro.

Budget review by years indicates changes in level and structure of the budget and the purpose of the incentive measures. These measures in previous years were meant for direct payments (milk subsidies, premiums for plant and livestock production, etc.); and in the last few years the number of programs of general interest that stimulate agriculture as a whole, which are not sector oriented (work of expert services and laboratories, investment in rural infrastructure, expert training, promotion of agro-food products), has enlarged.

Planned budget lines are used for budget analysis, and not data on their realization. Regarding the fact that budget lines in the last few years were very precisely defined, there was little deviation in the implementation of the predicted measures. Reliable conclusion may be drawn from the overview of the planed budget resources.

### 9.3.1 Share of Agriculture in Total Budget

The total agro-budget was conditioned by numerous factors like the initiation of new programs, level of international support, changing currency from Dinar to German Mark, and later on Euro as an official currency in Montenegro.

Budget appropriations in real terms show growing tendencies at an annual level in the last seven years. However, the growth was not stable. A decline in budget support in real terms happened in 2002 and 2005, which led to some difficulties during the carrying out of individual programs.

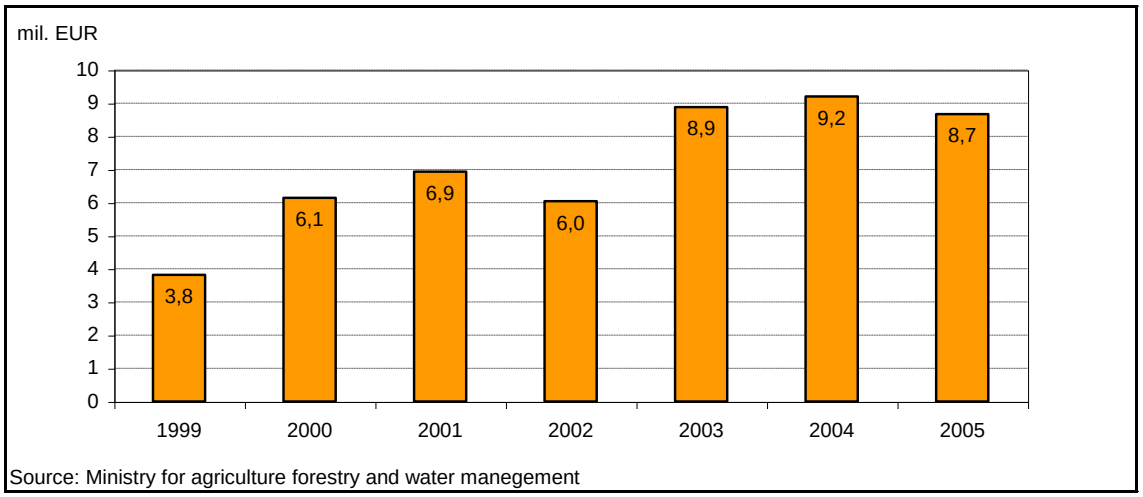



*Chart A.13: Agro-budget in absolute terms, 1999-2005*

Besides the growth in the last few years, its share in the total budget of Montenegro has significantly reduced. Real growth of total budget in 2001 was considerably larger compared to the growth of the agro-budget. In 2005, the share of agro-budget in total budget accounted for 1.8% while in the period 1999 – 2001 it was about 3%.

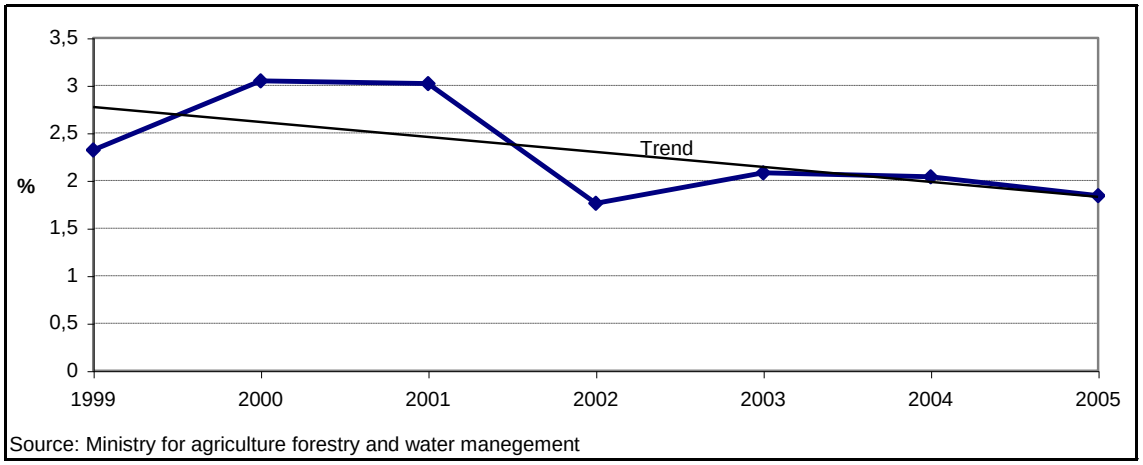



*Chart A.14: Share of Agro-budget in Total Budget of Montenegro, 1999-2005*

### 9.3.2 Agro-budget Structure by Sectors

Agro-budget structure by sectors in period under review has significantly changed. The share of the programs of general importance increase from year to year as compared to programs by sectors. Significant changes in budget structures occurred in 2002, when some of the measures came to an end: milk premiums, some input subsidies in crop production, investments in the building of Distributive centre for fruits and vegetables and the like. On the other hand, new budget lines were introduced, like old-age grants for farmers and young farmers insurance.

*Table A.18: Agro-budget structure in 2001 and 2004*

| Sector | 2001 | | | 2004 | | |
|---|---|---|---|---|---|---|
| | No of programs | Total (000 €) | Share (%) | No of programs | Total (000 €) | Share (%) |
| Livestock | 9 | 2.888 | 41,8 | 10 | 1.520 | 16,5 |
| Veterinary | 13 | 536 | 7,8 | 13 | 914 | 9,9 |
| Bee-keeping | 3 | 67 | 1,0 | 4 | 57 | 0,6 |
| Fisheries | 3 | 41 | 0,6 | 6 | 97 | 1,1 |
| Crop production | 17 | 1.299 | 18,8 | 15 | 855 | 9,3 |
| **Total by sectors** | **45** | **4.831** | **70,0** | **48** | **3.443** | **37,4** |
| Programs of general importance | 12 | 2.075 | 30,0 | 14 | 3.457 | 37,6 |
| Old-age grants for farmers | - | - | - | 1 | 2.300 | 25,0 |
| **Total programs of general importance** | **12** | **2.075** | **30,0** | **15** | **5.757** | **62,6** |
| **Total** | **57** | **6.906** | **100,0** | **63** | **9.200** | **100,0** |

Changes in agro-budget structures since 2002 were mainly influenced by old-age grants for farmers. In budget 2004, for example, these grants accounted for 25% of the total budget. The largest share amongst the programs was for the program of improvement of the market position of Montenegrin agriculture products with 19,6%, followed by rural infrastructure that accounted for 7,6% of total budget. Other programs, taken individually had a considerably smaller share.

### 9.3.3 Agro-budget Structure by Measures of Agricultural Policy

Agro-budget went through some changes regarding the form itself in recent times. Up until 2000, it had a very simple form without detailed analysis, and since then agro-budget is represented according to budget lines. However, it is still presented by sectors and not according to measures. In order to follow indicators for an analysis of agricultural policy, the budget must be followed by policy and group measures, and these are:

- Measures of market policy
- Rural development measures
- Public services in agriculture

Market policy relates to individual agricultural products and all producers, and comprises all measures influencing the price level of agricultural products or which increase the income of producers with different forms of direct payments. These groups of measures include administrative control of prices, foreign trade protection, export support, measures for stabilization of internal markets (intervention buying, other market interventions on domestic market), price aids, direct payments per ha or head, different input subsidies, support for buying of seeds and breeding animals and the like.

The policy of rural development mainly refers to individual producers, groups of producers or territorial areas. It comprises measures aiming at supporting the multifunctionality of agriculture, increment of efficiency and competitiveness of agricultural producers, measures of support for the food processing industry and measures for the general development of rural areas. These measures usually include: payments to producers in less favoured areas (payments per head or per ha), direct payments for environmental protection (price subsidies, and other environmental programs), support for farm investments, support for regenerating perennial plants, support for the building of storehouses for fruits and vegetables, support for early retirement and support for young farmers in taking over farms, and other specific measures (producer group incentives).

The Public services policy integrates measures with which the state provides protection and implementation of public interests in areas of food production and rural development. These measures do not directly influence the income of producers and they include support for expert agricultural services, veterinary measures, quality policy, research, education and development.

The Agro-budget structure between 2002 and 2004, for which total budget support was classified according to groups, indicates that only measures of market-price policy during this period showed a stable growth, while other groups of measures varied from year

to year. Variations of these basic groups of budget measures indicate that a considerable amount of measures are still not sustainable.

*Table A.19: Agro-budget by groups of measures*

| | 2002 | | 2003 | | 2004 | | 2005 | |
|---|---|---|---|---|---|---|---|---|
| **Measure** | **000 €** | **%** | **000 €** | **%** | **000 €** | **%** | **000 €** | **%** |
| Market policy measures | 1.369 | 22,7 | 1.847 | 21,0 | 2.001 | 21,8 | 2.162 | 24,9 |
| Rural development | 1.594 | 26,4 | 3.289 | 37,4 | 3.171 | 34,5 | 2.298 | 26,5 |
| Public services | 1.863 | 30,9 | 1.450 | 16,5 | 1.701 | 18,5 | 2.014 | 23,2 |
| Special old-age grants for farmers | 1.176 | 19,5 | 2.180 | 24,8 | 2.300 | 25,0 | 2.160 | 24,9 |
| Reserves | 32 | 0,5 | 27 | 0,3 | 27 | 0,3 | 34 | 0,4 |
| **Total** | **6.033** | **100,0** | **8.793** | **100,0** | **9.200** | **100,0** | **8.668** | **100,0** |

Measures of Market policy averaged about 23% of total agro-budget, ranging from 21% in 2003 and reaching a peak level of 25% in 2005. Share of measures of rural development is a little higher and varies more, averaging about one third of total budget (32%). General services in total agro budget account for one fifth, and fluctuated the most in the reviewed period.

The special pensions program, which is basically a social transfer, accounted for a quarter of the total budget, which gives a social dimension to agro-budget, and to some extent decreases the development role of budget.

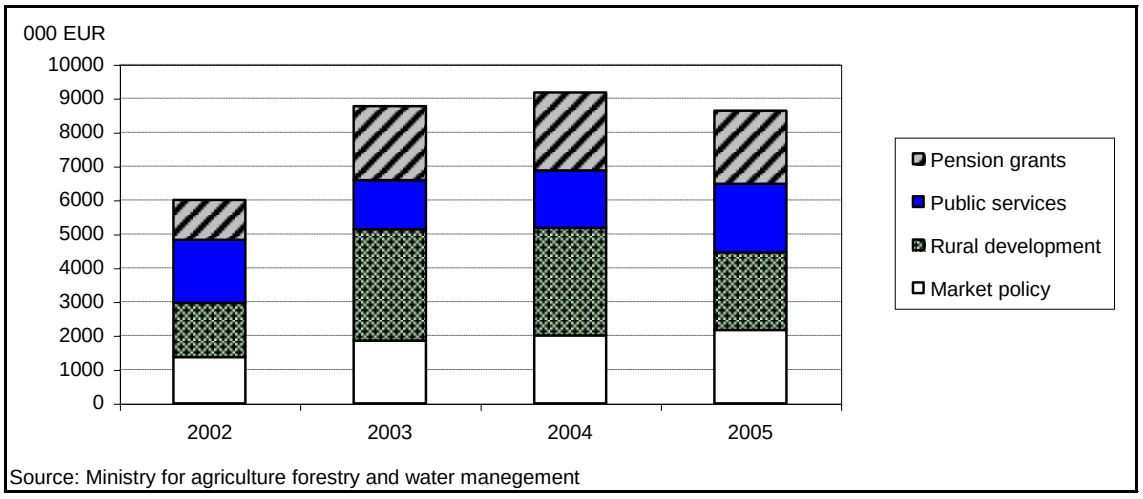



*Chart A.15: Agro-budget by basic groups of measures*

***Market-Price Policy Measures***

Market policy measures are shown according to individual sector in the table below. It is evident that the largest share of these measures went to livestock production.

As far as livestock production is concerned the largest share went for beef premiums in less favoured areas (€50 or 60 per head, only for herds above a minimum level of five breeding heads) and sheep premiums (€7 per head, above a minimum of 40 heads per herd), followed by programs for the artificial insemination of cows.

In plant production, the largest share of support was for tobacco production, seed potato production and program for olive production development.

Programs of general importance included in Market policy measures are programs related to the implementation of international support (common implementation) and participation in grants for damages in agriculture.

*Table A.20: Outline of the Market Policy Measures by Sectors*

| | 2002 | | 2003 | | 2004 | | 2005 | |
|---|---|---|---|---|---|---|---|---|
| **Sector** | **000 €** | **%** | **000 €** | **%** | **000 €** | **%** | **000 €** | **%** |
| Livestock | 961 | 70 | 1.190 | 64 | 1.258 | 63 | 1.351 | 62 |
| Veterinary | 0 | | 0 | | 0 | | 0 | |
| Bee-keeping | 40 | 3 | 20 | 1 | 43 | 2 | 43 | 2 |
| Fisheries | 0 | | 0 | | 0 | | 0 | |
| Plant production | 327 | 24 | 377 | 20 | 425 | 21 | 354 | 16 |
| Programs of general importance | 41 | 3 | 260 | 14 | 275 | 14 | 395 | 18 |
| **Total** | **1.369** | **100** | **1.847** | **100** | **2.001** | **100** | **2.163** | **100** |

Only support for tobacco production is a classical support for product through price aids. All other programs include elements of rural development policy, like support for less favoured areas (beef premiums), maintenance of extensive production (sheep premiums) or investment support (program of olive production development).

In last few years, market policy measures intended for direct payments per head or per hectare had the greatest share in the budget. These measures record the strongest improvement in period between 2002 and 2005. Most of the increment went for premiums in cattle and sheep production. With the same payments per herd the number of heads per herd is increasing, as well as the total amount for this purpose.

The second largest group according to volume of budget lines was aimed at cost reductions (input subsidies). The most important within this group are: premium for breeding cattle, selection program for be-keeping, program of production of animal feed, etc.

Price aids in structure of measures of market policy account for 11 to 18%. The budget for this group of measures increased moderately under the impact of the support for tobacco production. Support per product unit (kg of dried tobacco) was the same during the period under review, but from year to year, the total production increased.

***Rural development policy measures***

Rural development policy measures include a small number of programs from individual sectors: maintenance of genetic resources in plant and livestock production, improvement of market structure, environmental programs and so on. The most stable share was for the building of rural infrastructure, averaging about 10% of the total agricultural budget.

The important share went to the program for restructuring of the production and food processing industry (20% in 2004). This program started in 2003, and is mainly designated for the restructuring of the dairy sector.

*Table A.21: Measures of Rural Development by Sectors, 2002-2005*

| | 2002 | | 2003 | | 2004 | | 2005 | |
|---|---|---|---|---|---|---|---|---|
| **Sector** | **000 €** | **%** | **000 €** | **%** | **000 €** | **%** | **000 €** | **%** |
| Livestock | 138 | 9 | 60 | 2 | 60 | 2 | 55 | 2 |
| Veterinary | 0 | | 100 | 3 | 100 | 3 | 0 | |
| Bee-keeping | 123 | 8 | 0 | | 0 | | 0 | |
| Fisheries | 44 | 3 | 29 | 1 | 31 | 1 | 30 | 1 |
| Plant production | 281 | 18 | 30 | 1 | 150 | 5 | 155 | 7 |
| Programs of general significance | 1.007 | 63 | 3.070 | 93 | 2.830 | 89 | 2.057 | 90 |
| **Total** | **1.594** | **100** | **3.289** | **100** | **3.171** | **100** | **2.298** | **100** |

The budget for rural development policy measures varies a lot and depends on specific programs of limited duration. This is why the structure by groups is constantly changing.

***General and Public services in Agriculture***

Within the program of support for public services in agriculture most of the programs are in livestock production, with animal breeding service and laboratories for dairy production; in plant production, with extension service, land fertility control, suppression of

plant diseases and pests, reporting-forecast service, protection of olive etc., as well as in more than 10 other programs of general importance (equipping of inspection services and laboratories, staff support and expert recruitment, and so on). Most of the programs are in the field of veterinary, whose share exceeds 50% of total budget support for this kind of activities in last period. Although the significance of preventive measures for animal welfare is undisputed, it can be stated that the budget does not have an emphasized developmental character.

*Table A.22: Support measures for Public services in Agriculture by Sectors*

| | 2002 | | 2003 | | 2004 | | 2005 | |
|---|---|---|---|---|---|---|---|---|
| **Sector** | **000 €** | **%** | **000 €** | **%** | **000 €** | **%** | **000 €** | **%** |
| Livestock | 286 | 15 | 192 | 13 | 202 | 12 | 209 | 10 |
| Veterinary | 532 | 29 | 688 | 47 | 814 | 48 | 1.018 | 51 |
| Bee-keeping | 10 | | 14 | | 14 | | 14 | |
| Fisheries | 93 | | 66 | | 66 | | 47 | |
| Plant production | 125 | 7 | 175 | 12 | 280 | 16 | 398 | 20 |
| Programs of general significance | 816 | 44 | 315 | 22 | 325 | 19 | 327 | 16 |
| **Total** | **1.863** | **100** | **1.450** | **100** | **1.701** | **100** | **2.013** | **100** |

Total appropriations for public services and agricultural services in the period between 2002 and 2005 grew moderately. Besides veterinary, extensions services increased, while other programs continue to maintain the same level.

### 9.3.4 Compliance of Agro-budget with WTO standards

The World Trade Organization (WTO) comprises programs of support that may cause disturbances in international trade and those that do not. The first group of programs includes support for producers in prices or subvention of inputs in production. Supports that do not cause disturbances in international trade, are most often financing of the following agricultural activities: education, research, extension services, quality product control, investments in rural infrastructure, marketing and promoting activities, farmer's insurance, social programs and so on. According to WTO, agricultural support is usually divided into several boxes:

- Amber box - subventions that cause trade disturbances (market price support or input subventions),
- Blue box - policy that limits production to a specific level, typical for direct payments in the frame of Common Agricultural Policy of the EU, which relate to payments for defined areas or specific number of cattle, or 85% of primary production.
- Green box - maximum allowed support that does not influence international trade, and therefore is not liable to limitations.

In order to develop ACC/4 document for the separate accession of Montenegro to WTO, the Office for accession to WTO of Serbia and Montenegro provided a budget analysis for 2004.

According to this scheme, 14 programs amounting to €1,8 million (20%) belong to a yellow box, and seven of them comprise elements belonging to a green box. These seven programs account for €1,1 million, which drops the value of the programs disturbing trade to €600 thousand (less then 7% of total costs).

Agreement on agriculture allows member countries (developed countries) to spend about five percent of total value of production of goods or groups of goods without dispute (so-called *de minimis*). It is estimated that these expenses, even if seven programs with elements of green box are included, may be brought under the *de minimis* clause. When the document ACC/4 was elaborated, support superseded the level of 5% only with tobacco.

# 10 COMPETITIVENESS OF AGRICULTURE IN MONTENEGRO

## 10.1 Import tariffs

Import policy of the Republic of Montenegro comprises of border protection by applying combined custom tariff (ad valorem and specific tariffs - earlier levies). Import quotas (contingents) were abolished in 2003. Import protection in Montenegro is relatively high and show trends of growth. In comparison with the level from the year 2000 the average tariff rate (aggregation from 24 headings - groups of products), has significantly increased from 3,5% (2000) to 13,9% (2005). In addition, the tariffs for animal products show highest increase (meat and processed meat, as well as milk and dairy products).

*Table A.23: Overview of the number of ad valorem and specific tariff positions following the introduction of HS 2002 classification system*

| | | Number of ad valorem positions | | | Average custom tariff (%) | | | Total number of levies / specific tariffs | | | | Spec. tariff, €/ kg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2000 | 2003 | 2005 | 2000 | 2003 | 2005 | 2000 | 2002 | 2003 | 2005 | |
| 1 | Live cattle | 57 | 57 | 55 | 0,3 | 13,8 | 13,0 | 2 | 1 | 1 | 1 | 0,20 |
| 2 | Meat | 112 | 112 | 259 | 3,7 | 11,3 | 18,6 | | 74 | 76 | 107 | do 0,30 |
| 3 | Fish | 95 | 95 | 323 | 3,3 | 8,6 | 9,1 | | | | | |
| 4 | Milk | 71 | 71 | 177 | 3,1 | 20,8 | 22,5 | 1 | 12 | 12 | 69 | do 0,30 |
| 5 | Animal products | 23 | 23 | 21 | 0,0 | 3,5 | 0,0 | | | | | |
| 6 | Trees, flowers, planting material | 17 | 17 | 40 | 1,2 | 11,9 | 9,7 | | | | | |
| 7 | Vegetable | 80 | 80 | 113 | 4,7 | 17,0 | 17,7 | 5 | 7 | 4 | 7 | do 0,20 |
| 8 | Fruit | 89 | 89 | 147 | 4,5 | 12,2 | 13,2 | 5 | 5 | 5 | 9 | do 0,20 |
| 9 | Coffee. Tea, spices | 35 | 35 | 42 | 1,9 | 6,4 | 5,5 | | | | | |
| 10 | Cereals | 27 | 27 | 64 | 0,0 | 2,1 | 2,3 | | | | | |
| 11 | Flour and milling products | 35 | 35 | 84 | 4,7 | 5,3 | 4,7 | | | 1 | 3 | 0,04 |
| 12 | Indi. Plant seed | 53 | 53 | 77 | 1,0 | 7,5 | 0,0 | | | | | |
| 13 | Rubber, resin | 13 | 13 | 15 | 0,0 | 2,8 | 0,0 | | | | | |
| 14 | Plant met. For knitting | 11 | 11 | 8 | 0,0 | 1,5 | 0,0 | | | | | |
| 15 | Oils and fats | 65 | 65 | 125 | 0,9 | 4,0 | 2,4 | | 2 | 1 | 4 | do 1,0 (olive oil) |
| 16 | Processed meat | 29 | 29 | 92 | 5,0 | 20,0 | 20,9 | 1 | 14 | 14 | 48 | do 0,20 |
| 17 | Sugar and products | 27 | 27 | 50 | 1,9 | 10,7 | 10,6 | | | | | |
| 18 | Cocoa | 13 | 13 | 27 | 4,3 | 10,7 | 15,4 | | | | | |
| 19 | Pasta, cookies | 23 | 23 | 53 | 4,8 | 5,7 | 7,1 | | | | | |
| 20 | Preserved fruit and vegetable | 82 | 82 | 310 | 5,0 | 18,2 | 17,2 | | 1 | 1 | 2 | 0,40 |
| 21 | Various food products | 31 | 31 | 42 | 4,1 | 14,5 | 15,7 | 1 | 1 | 1 | 3 | 0,30 |
| 22 | Beverage | 50 | 50 | 189 | 14,4 | 29,6 | 29,8 | 10 | 10 | 9 | 66 | do 0,30 |
| 23 | Animal feed | 29 | 29 | 66 | 0,2 | 6,2 | 6,7 | | | | | |
| 24 | Tobacco | 20 | 20 | 30 | 3,9 | 14,8 | 14,0 | | | | | |
| | **Average/Total** | **1087** | **1087** | **2409** | **3,5** | **12,2** | **13,9** | **25** | **127** | **125** | **319** | |

Source: Ministry of Agriculture, Forestry and Water Management

Besides a significant increase of custom tariffs for the above-mentioned products, they are still below the EU level. This might be attributed to specific import duties that amount for some types of meat of up to €3/kg in addition to the ad valorem tariffs. Therefore in some cases effective rate of protection reaches over 100%. Montenegro's import tariff for cereals and cereals products, sugar and oil is radically lower in comparison to the EU levels. On the other hand, Montenegro has a higher tariff for beer, mineral water and some less important products.

An analysis made during the preparation for negotiations with WTO shows that the average effective custom tariff in Montenegro amounts to 15.52% and is significantly lower in comparison to the EU levels (23.97%).

## 10.2 Price Comparison and Competitiveness

### 10.2.1 Agricultural Producer Prices

There is no consistent and harmonised data set on producer prices of agro-food products, essential for a sector and competitiveness analysis. There is a periodical measurement and publishing of average producer prices[13] in Montenegro by the Federal Statistical Bureau, however not complete and the methodology is harmonised with the EU standards. There is a lack of data on certain products and years. Prices are in most of the cases based on estimates, and they are not always related to Montenegro only. In some of the cases measurements are presented for Serbia and Montenegro together. However, these prices allow for rough comparison with the EU countries, although they must be taken with some caution.

*Table A.24 Average producer prices (€/t) for major agricultural products in Montenegro*

| | 2001 | 2002 | 2003 | 2004 |
|---|---|---|---|---|
| Wheat | 120 | 114 | : | : |
| Grain maize | 124 | 90 | : | : |
| Rye | - | - | 250 | 180 |
| Tobacco | 2.050 | 1.750 | 1.860 | 1.600 |
| Potato | 250 | 180 | 350 | 260 |
| Carrot | 470 | 460 | 570 | 620 |
| Onions | 320 | 430 | 460 | 410 |
| Cabbage and kale | 230 | 250 | 200 | 180 |
| Tomato | 770 | 300 | 620 | 600 |
| Apple | 430 | 680 | 580 | 650 |
| Peach | 710 | 700 | 1.000 | 920 |
| Orange and Tangerine | 1.480 | 790 | 1.000 | 780 |
| Grape | 1.020 | 1.070 | 970 | 1.000 |
| Calves for slaughter (live weight) | 2.039 | 2.539 | 1.570 | 2.000 |
| Lambs for slaughter (live weight) | 2.369 | 2.332 | 2.080 | 1.830 |
| Milk, cow (000 l) | 320 | 310 | 290 | 290 |
| Eggs (000 pieces) | 70 | 70 | 70 | 70 |

Source: Statistical Yearbook of Montenegro

### 10.2.2 Prices and Competitiveness in Crop Production

Production of **cereal** is declining in the last years, which implies that this sector is uncompetitive. The market is practically open and border protection is very low. Data for 2001 and 2002, for the Montenegro and Serbia, show that prices are relatively low, almost at the level of world prices. Cereal prices in the EU also show negative trends, and might be attributed to the agricultural policy changes after 1992 when direct payments were introduced. Without the budgetary support to producers the cereal production in Montenegro cannot be competitive on broader markets.

**Tobacco** prices in Montenegro are falling and are significantly lower then in the EU, where Greece could be taken as an example (average price level in 2001-2004: €2.915/t). Compared to the EU, Montenegro has much lower budgetary support in this sector, so it might be assumed that tobacco production is competitive. However, the long term prospects of this sector in Montenegro and generally in Europe are uncertain, since it would be difficult to be competitive with market prices outside the EU and moreover, the budgetary support has been abolished with the CAP reform in 2004.

Prices of **potato** in Montenegro are volatile, and in comparison with the EU, they are very high. Only Greece has higher prices in the EU, considering however, that Greece is not a traditional producer of potato. These favourable conditions in Montenegro arose as a result of

[13] Analyzed producer prices represent average prices calculated on data on sales and purchases of products (amounts and values of sold products from producers) from agricultural enterprises and private farms. Prices of wheat and grain maize represent average collecting prices at SCG level, and of other products at the level of Montenegro.

several factors. First of all, the market is relatively closed and protected. This is not primarily the result of the custom tariffs, as it is from the absence of distribution and retailing operators, which would result in the presence of industrially processed potato from abroad. The level of prices is influenced also by consumer preferences and traditional sales channels through green markets and direct sales from farmers to consumers. The reason for higher prices also lies in the fact that mainly young potatoes are sold. We may expect a fall in prices in the future, which will be conditioned with opening of markets, significant penetration of foreign retailers and changes in consumer preferences and purchasing habits. According to estimates based on the current situation, potato production is relatively uncompetitive. Without faster technological progress and improved market channels there would be no great perspectives for this sector.

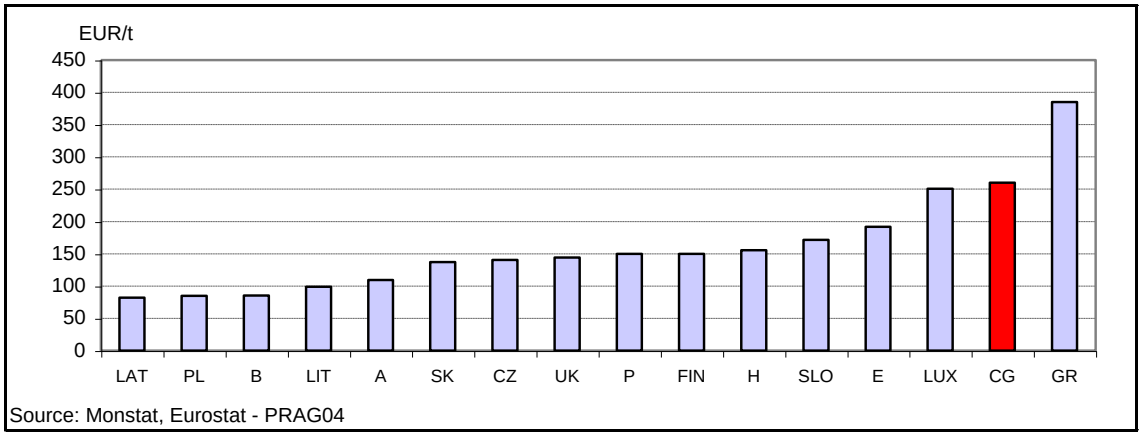



*Chart A.16: Average producer prices of ware potato in Montenegro and selected EU countries (2001-2003 average)*

If we consider the **tomato**, as a representative product of vegetable production, we may conclude that the domestic prices are relatively low and comparable with the EU prices, where the production is carried out of greenhouses and climatic conditions are relatively favourable (Portugal, Italy, Greece). Negative trends for prices were observed for some crops (tomato, cabbage).

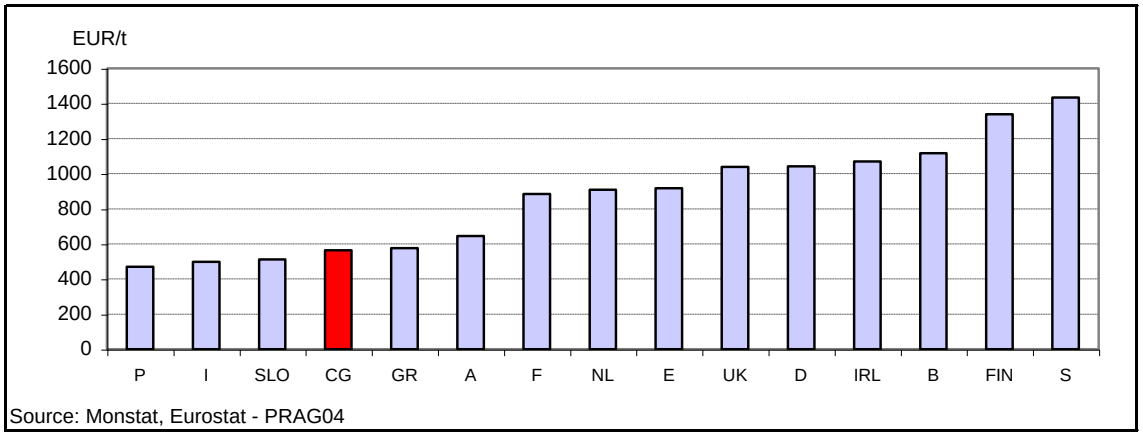



*Chart A.17: Average producer prices of tomato (in- and out-door production) in Montenegro and selected EU countries (2001-2003)*

Generally, the competitiveness of vegetable production is better than for potato, as well as production potentials. The lack of retailers is also evident here (green market sale is widely present), as well as import competition from the European producers (e.g. Netherlands) or from the World market. Therefore, it is expected that favourable conditions will worsen for domestic production in the next period. Producers can face these preasures only if they will improve technology, enlarge production areas and establish producer organisations. However, natural conditions could contribute to the long-term competitiveness of Montenegrin vegetable products.

Producer prices of **fruits** are relatively high, for grape and citrus products also, with the falling tendency in the period 2000-2004. The reason for high price level is similar to the ones mention earlier with potato and vegetables. The Montenegrin market, due to underdeveloped trade channels, is not entirely subject to the international competitive pressures. We expect that in the next period significant changes will happen. Montenegrin production of fruits, along with the evident differences in quality, will hardly be competitive with foreign products after the development of marketing infrastructure. Despite favourable natural conditions, it is necessary to invest in technology and organization and to improve the future position on the market. The competitiveness of this production is currently under question.

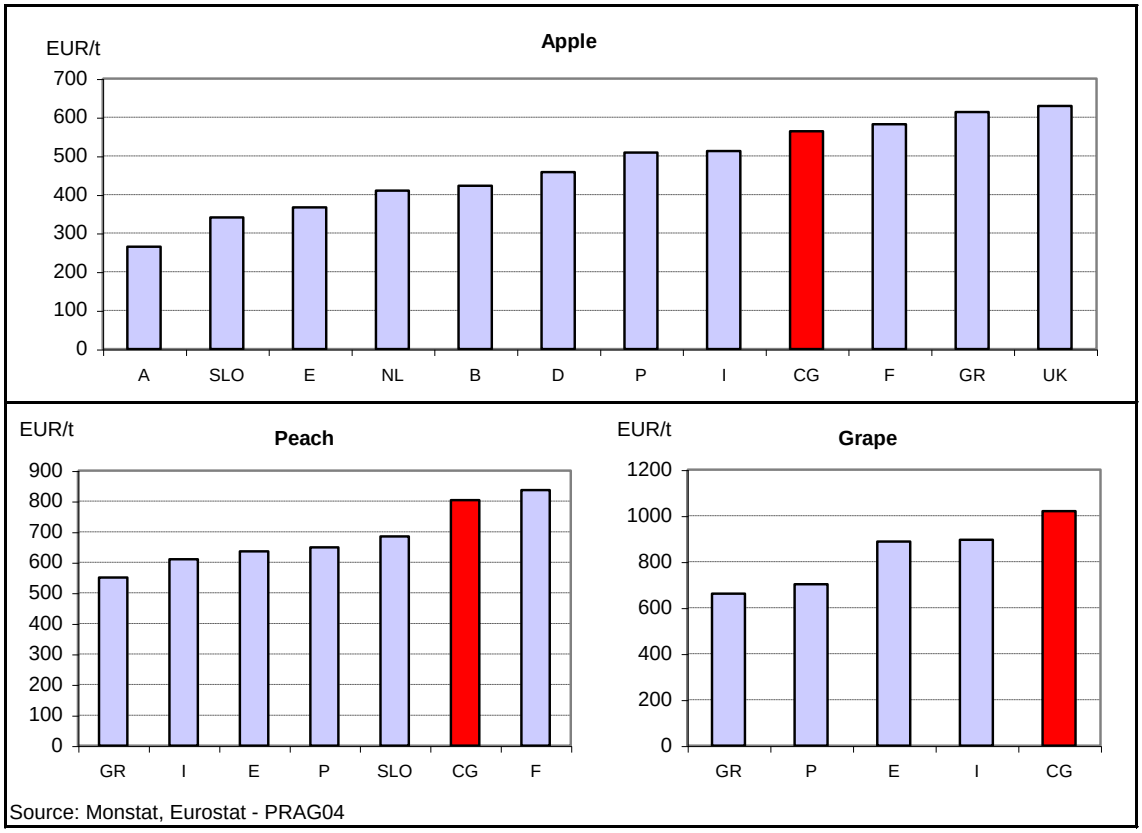



*Chart A.18: Average producer prices of apples, peaches and grapes in Montenegro and selected EU countries (average 2001-2003)*

### 10.2.3 Prices and Competitiveness in Livestock Production

Producer prices of **calves** in Montenegro are relatively low and on the level of prices in Malta and Greece. The reason for this lies in the small and specific market. There is no organised fattening and calves might be considered as a by-product of milk production.

This situation is not expected to change significantly in the next period. Potentials for development of extensive production of cattle are, however, evident, but are not realisable without larger structural changes. The size of farm holdings should improve, changes in technology are needed (e.g. intensive pasture) and market infrastructure should be developed.

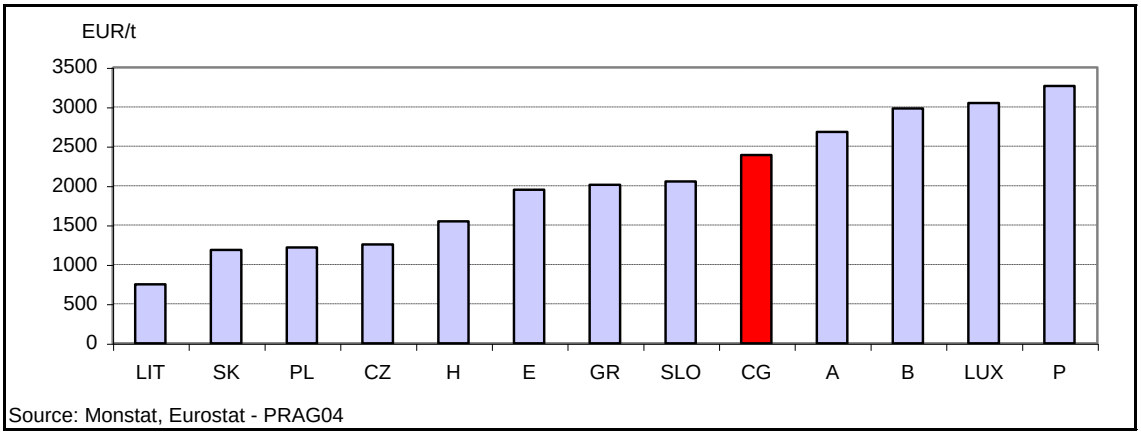



*Chart A.19: Average prices of calves for slaughter (live weight) in Montenegro and selected countries in the EU in 2004.*

Producer prices of slaughter **lambs**, in the last year are decreasing (similar to the EU). Prices are relatively low, especially if compared to other Mediterranean countries with similar conditions (Greece, Italy, Spain, Portugal, and Cyprus) and maybe France as a country where consumption of lamb per capita is relatively high. The production of lambs is one of the rare productions where price competitiveness is evident. This potential is not being realized, because of the unfavourable market infrastructure (organization of producers, slaughtering houses don't comply with hygienic standards for export, lack of exporters with international experience on the market). Due to relatively high consumption, the domestic market will be interesting for import from third markets (Australia, New Zealand), so the paradox might happen, that one of the rare competitive productions may fall into recession in the future. Investments in market and organization of production are essential, especially here where real competitiveness exists.

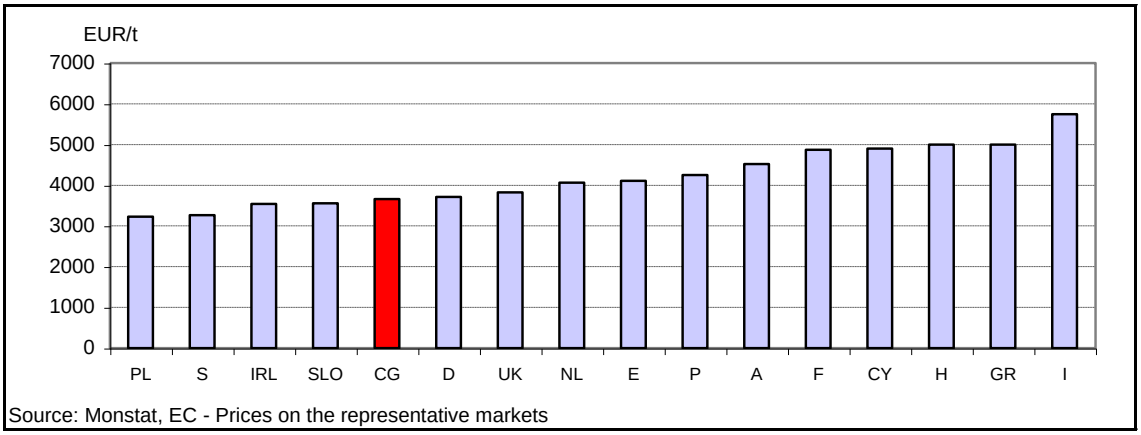



*Chart A.20: Average producer prices of lambs for slaughter (carcass weight – f 0,5) in Montenegro and selected countries in the EU in 2004.*

Producer prices of **eggs** are, according to data provided by Monstat, stable and if compared to European prices, relatively high. Prices in most of the European countries are significantly lower than in Montenegro.

The fall in prices might be expected in the future, however not so much as to endanger domestic production. Experiences from other countries that have liberated their eggs markets show that in this sector globalization is not so much evident and that regional characteristics of markets remain important.

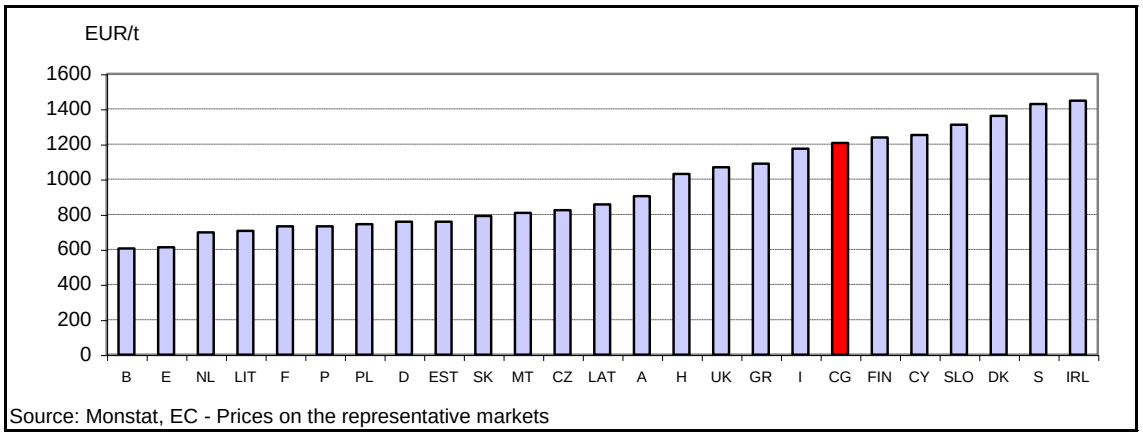



*Chart A.21: Average producer prices of eggs (calculated in tons - f 17,24) in Montenegro and selected countries in the EU in 2004.*

Official data on producer prices of **chicken** and **pork** are not available. However, according to the expert opinion (estimating from the beef markets and production of eggs) it is expected that the prices are relatively high. Production of pig meat is not so widely present, and the conditions are not so favourable (there is no domestic production of animal feed, climatic conditions). It is difficult to claim that the same thing goes for the production of chicken meat, characterized by the evident development in the last period. This market is currently relatively protected through import tariffs. On the other hand, we could expect the increase of the meat consumption (especially of chicken meat), along with general economic development. It will certainly happen if conditions will be less favourable than today.

The producer prices of **milk** are slightly decreasing, so Montenegro falls in the category of the EU countries with lower prices. Furthermore, if we consider that the quality of milk in the EU is much higher, we can conclude that the milk prices in Montenegro are relatively high and uncompetitive.

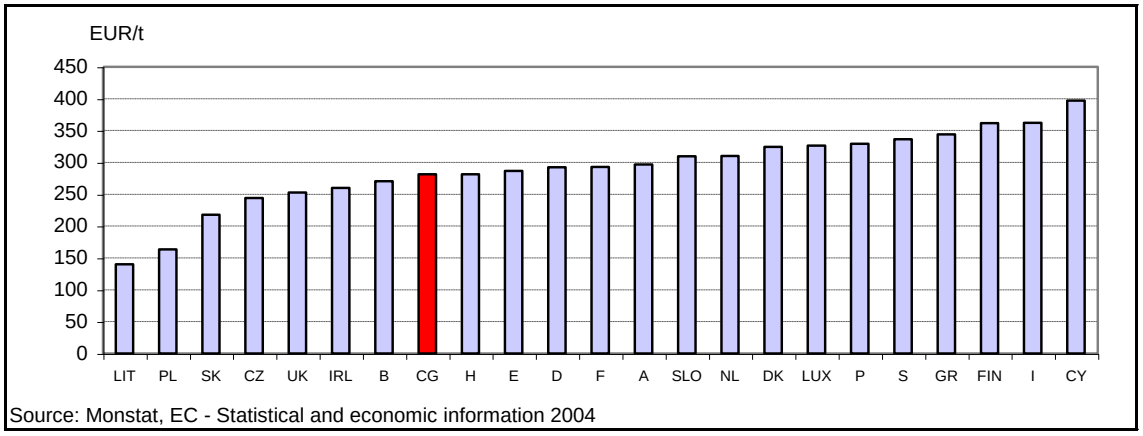



*Chart A.22: Average producer prices of cow milk (calculated in tons - f 1,03) in Montenegro and selected countries in the EU in 2003. (actual fat content and quality)*

The competitive pressures on dairies (small in volume of production and none of them complies with the hygienic standards in the EU) will rise significantly in the future. Opening of markets and further development in trade could mean that dairies will not be able even to maintain the current price levels. The conditions are expected to deteriorate in any case, so it is recommended to make changes in technology, size and organization. However, specific opportunities lie in production of traditional diary products where market position and price level could remain favourable.

## 10.3 Comparison of budgetary support

The budget support in Montenegro was compared to the budget support in the European Union (2004) and some individual countries of Central and Eastern Europe, prior to the accession to the EU (2003). Data for the EU and new member states are gathered from the OECD PSE calculations and for Montenegro from the analysis of the budgetary support, shown in Chapter 9. Budgetary support comprises all types of transfers, directly for producers, as well as transfers for financing of infrastructure and general services in agriculture. For Montenegro, we compared support that are directly aimed at agriculture (MN transfer) and the total agricultural budget.

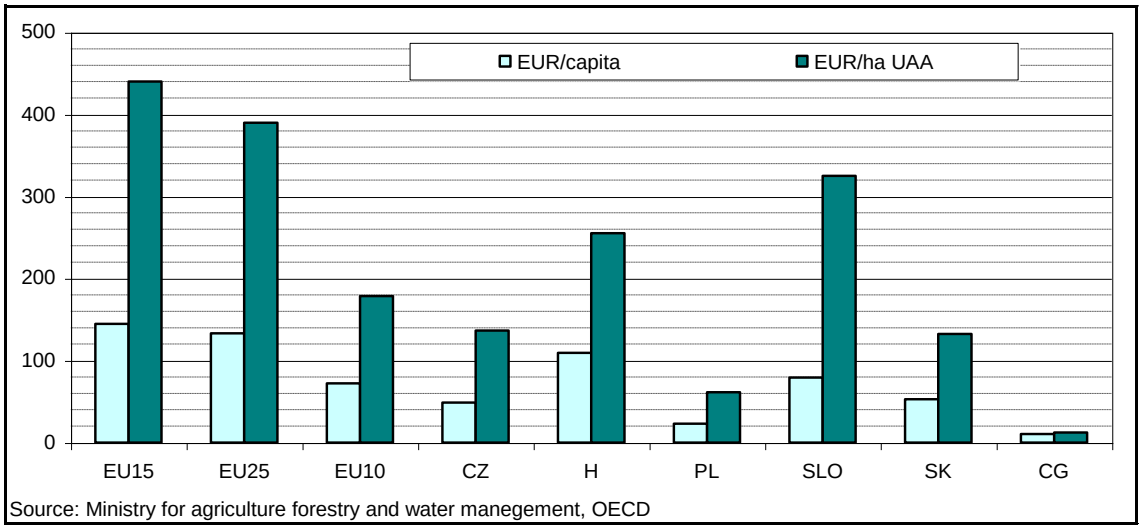



*Chart A.23: Budgetary support to agriculture per capita and per agricultural area for Montenegro, EU and selected countries in the EU*

According to all criteria, budget support in Montenegro for agriculture is relatively low if compared to the EU or New Member States. In the European Union (EU 25) budget support per capita and per ha of agricultural land amounts to around €400. New members, prior the accession had from €20 for Poland, to more that €300 in Slovenia. Montenegro currently has support of €10 per capita or per ha of agricultural land (the result is slightly better if we consider only arable land). The figure is considerably lower even in comparison with the New Member States with the lowest level of gross domestic product per capita, as for example Poland or Baltic countries.

With respect to the economic situation and the achieved level of development, this budget support to Montenegrin agriculture does not enable positive changes. It is difficult to stimulate rural and regional development, expected synergy of agriculture and tourism and general sustainable development of the country in a whole. With this level of support, bearing in mind all the necessary infrastructural and developmental changes, integration of Montenegro to EU is seriously questionable.

## 10.4 Evaluation of the aggregate level of support to agriculture

Comparison of prices and budgetary support, enable rough estimate on the level of aggregate support to agriculture in Montenegro. Producer support estimate according to this methodology (developed by OECD) comprises of market-price support and budgetary transfers. Market-price support represents difference between production value at domestic prices and production value at world reference prices. Budget support includes only those transfers to agriculture which directly influence the income of agricultural producers (therefore without infrastructure and general service for agriculture). The most often used indicator is the %-PSE that indicates share of PSE support in the agricultural sector revenues.

Due to lack of complete statistical data, especially producer prices, exact estimate of support to agricultural producers is not possible. Rough estimate %-PSE was made according to the PSE calculation for Slovenia. The estimate is based on the comparison of prices between Montenegro and Slovenia according to products, and based on plausible assumption that the prices in Montenegro on aggregate level are at least equal or five percent higher (real estimate is probably somewhere between these two limits) than those in Slovenia. Budget support for Montenegro, for 2005, was relatively solid, so according to the indexes of pre-accounts we got 28% PSE for Montenegro (with equal price level) or 31% PSE (with 5% higher price level).

With all the necessary caution for this rough estimate, we may assume that %-PSE in Montenegro is higher than 25%, which makes it a country with mediate high level of support to agriculture. Most of this support (more than 95%) is a result of differences in prices compared to the world's prices (market-price support) and only partly a result of budget support. Relatively high level of market-price support (high market prices), are only partly the result of the import protection, and mostly due to the nature of the market and undeveloped market infrastructure.

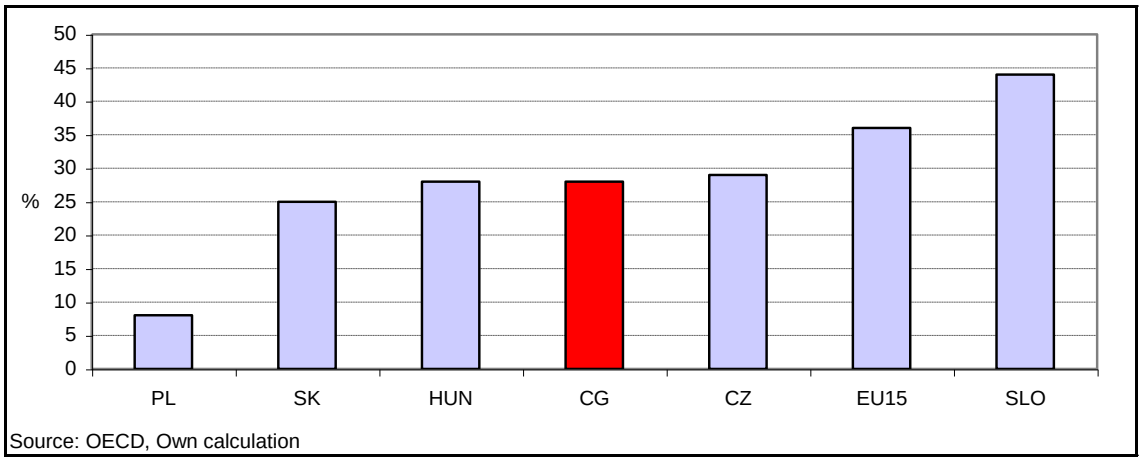



*Chart A.24: Support to agricultural production in % PSE for the EU 15 (2003), accession countries (2003) and for Montenegro*

This rough estimate gives us the possibility to evaluate what will happen with the support to agriculture in the next period. It has been already mentioned that the existing prices levels are hardly to be maintained. Future integration processes; membership in the WTO and negotiation within other regional and bilateral trade agreements; opening of the region for foreign direct investments and straightening of trade; as well as entrance of international retail chains, could lead to changes in the market channels and put additional pressures to prices. It should be emphasized here that without public support, private and public initiative, this sector will hardly be capable of resisting to all competitive pressures and to employ potential comparative advantages. New concept of agricultural policy and concept of budgetary support in Montenegro are one of the very important conditions which could reduce negative developments, that occurred in early period of transition (beginning of 90s) in some of the new members of the EU (Poland, Czech Republic, Slovakia), where reduction of production amounted to 40% and more.

## 10.5 SWOT analysis of Montenegrin agriculture

Sector analysis represents first attempt to develop internationally compatible presentation of current situation in Montenegrin agriculture. Collected data and findings enable elaboration of a SWOT analysis. This way it is possible to efficiently organise gained knowledge and indicate all strengths and weaknesses, opportunities and threats the country will meet in the future. These messages could be of handful use to policy decision makers in agriculture. SWOT analysis, also represents basis for elaboration of other documents of the Strategy.

As far as agriculture is concerned, it will be necessary to make effort in order to restructure the sector and to ensure better economic efficiency, competitiveness and adequate market channels along the agro-food complex. However, for further economic development of rural areas, beside the investments in rural infrastructure, it is necessary to create new jobs that are not necessarily related to primary production. Amongst the perspective economy sectors, tourism should be emphasised, where consumption trends indicate potential for further growth. Significant part of rural areas in Montenegro has favourable natural/cultural-historic attributes for their development (rural tourism,- ethno villages, gastronomic tourism, hiking, extreme sports, and the like). Potential for marketing of some specific products should also be employed (organic agriculture, identification of origin, specialty products) in tourism.

*Table A.25: SWOT analysis of Montenegrin agriculture*

| ***S – Strengths*** | ***W – Weaknesses*** |
|---|---|
| - some of the products show price competitiveness (wine, lamb meat, some vegetables);<br>- organic production of most of the products is plausible;<br>- there is still plenty of workforce that looks for additional employment;<br>- tradition in agriculture;<br>- evident positive changes in production and institutional frame during the last period;<br>- development of new sectors (commercial poultry production, formation of agro-food industry). | - majority of the production is uncompetitive as far as the prices are concerned;<br>- outdated equipment and technology in production;<br>- low level of mechanization;<br>- low level of technology and specialisation;<br>- structural fragmentation of agriculture;<br>- low volume of production per holding;<br>- relatively high level of input prices that influence the price of final products;<br>- low level of market sales;<br>- weak organisation and lack of horizontal and vertical channels;<br>- unsatisfying level of quality standards (hygienic and environmental);<br>- non-efficiency and non-competitiveness of agro-food industry (low volume of production, technological backwardness, lack of investments, market inefficiency);<br>- unfavourable rural - age and social structure;<br>- bad infrastructure in most part of the rural region;<br>- low level of budget support;<br>- underdeveloped and not adapted institutional and legislation system (compared to the EU standards);<br>- underdeveloped system of informatics, statistics and analytics in agriculture. |
| ***O – Opportunities*** | ***T – Threats*** |
| - strengthening of tourism and additional food consumption;<br>- development support of the EU, especially for rural development, as well as support to competitiveness improvement, management of natural resources and development of rural area;<br>- organic production;<br>- development of traditional certified produces in greater volume;<br>- strengthening of local production and market;<br>- strengthening of export of competitive products (wine, lamb, vegetables);<br>- establishing and strengthening of the former marketing channels (Croatian coastline, Serbia and B&H);<br>- efficiency of additional budget support;<br>- more rapid technological development, strengthening of education and institutions that support development of agriculture. | - opening of markets will lead to stronger competition, that might endanger great part of the commercial production;<br>- due to the volume and quality, as well as preferences of foreign goods, entering of bigger retailing systems will endanger economic position of individual agricultural sectors;<br>- concentrated development of agriculture in some parts of the country, may influence further depopulation and under-utilization of natural resources;<br>- drop behind in integration processes and lack of support from the EU;<br>- not taking in consideration the role of the agriculture in general development and approaching to the EU;<br>closing of accessible markets in the region. |

Current position of Montenegro has potentials that (along with the integration processes, opening of markets etc.) applying measures of agricultural policy leads to better valorisation and improvement of advantages, through:

- better valorisation of current price competitiveness and increase of export of certain number of products;

- creating conditions for development of organic production;
- improving education of workforce;
- emphasizing traditional aspects and positive changes that already occurred in the last few years, based on which dignity of producers was brought back;
- support for further development of processing capacities through production of necessary raw materials and increase of value added;
- introduction of modern technology;
- broadening of knowledge and skills of the producers;
- increase of cooperation amongst the agricultural producers and food processors, which would result in higher share of market production (technology progress, increase size of production, cost-reduction, introducing quality standards).

Extent in which the advantages of domestic production will be used (improvement of traditional products, strengthening of production for local markets, marketing of products through tourist consumption, rapid return to former markets, rapid transfer of knowledge and expert services on producers etc.), could reduce potential threats to Montenegrin agriculture. In the process of the market liberalisation better position for domestic producers could be created, and therefore entering of international retailers would not threaten domestic producers. Long-term planning could lead to realisation of broader positive implications. With clear definition of its role and position, significant benefits might be expected from agro-food sector development in Montenegrin economy and in the society in general.

# 11 PRODUCTION OUTLOOKS IN AGRICULTURE

## 11.1 Approach and type of scenarios

### 11.1.1 Scenario analysis assumptions

This part of the sector review aims to provide assessment on future situation in agriculture as a prerequisite to defining reform policy. It is necessary to give an expert estimate on future prospects in agricultural production or its key sectors, in order to improve the capacity for planning policy and budgetary support. The prognosis was made with scenarios and based on the given sector analysis and analysis of the competitiveness in agriculture, with assessments on various technological and economic standpoints.

To simplify this overview and to avoid too many details, a number of sectors are assembled together (fruit and vegetable production). Several sectors (beekeeping, horticulture, production of seed and planting material, medical herbs plantation and similar) of lesser importance, not intended for current or future direct support, are not included in scenario analysis.

Scenario approach is not designed to forecast the actual future outcome, it attempts to provide a picture of what might happen by using a number of input parameters - impact factors. Two groups of factors have been analyzed: external and internal ones. The key external factors are:

- movements and tendencies in the food chain markets in the region, EU and in the global market;
- achieved level of negotiations in WTO surrounding in regard to the global liberalization in food market;
- the current state in the regional market and bilateral agreements that Montenegro already signed and which are already being implemented;
- trade liberalization in the frame of the association of Montenegro with WTO;
- trade liberalization in frame of the Stabilization and Association Agreement with the EU.

The main internal factors for prognosis of movements within agriculture are:

- existing trends and attained level of production in the previous period;
- dynamics and attained level of modernization;
- competitiveness level;
- changes in macroeconomic surrounding, movements in the overall economy and their influence on the population standard that will affect changes in supply and demand of agricultural products in domestic market;
- development of tourism as an important prospect factor of demand for domestic products;
- attitude of the consumer towards the locally manufactured goods.

Assessment on production was based on the available resources (land and number of livestock) and intensity of production per production unit (area ha, productive tree, head of cattle, etc).

Mid-term period is defined as time needed to approach the EU. Notwithstanding the fact that there is no official estimate on what year this might happen, year 2014 was taken for the analysis.

The general thrust of scenario analysis is that no profound changes will occur on annual basis in agriculture. However, in exceptional circumstances it is possible to reach production growth rate ceiling up to 5-7%. Likewise, in specific sectors, it is possible to effectuate growth in shorter notice at considerably higher rates. However, on long term basis it is realistic to count on growth rate of about 4%.

Statistical data was used for estimates, except for cases when it was more that obvious that this data do not correspond with actual situation, and on the other hand, there are arguments for expert estimates on movements and indicators to individual sectors.

Scenario analysis generates the results in a form which can be used to address issues at very diverse levels. It will represent an additional source to producers themselves when making a decision about whether they would be practicing some type of production or not. Further on, this analysis may be of help when deciding on realistic export potentials of Montenegro. Scenario analysis may also involve modelling systematic analysis of market and agricultural policy to some extent.

### 11.1.2 Description of scenario

Scenario analysis method was used to forecast future production, whereas three possible scenarios are considered:

- pessimistic scenario;
- optimistic scenario;
- possible technological potential.

***Pessimistic scenario***

Expert estimates in pessimistic scenario are based on following assumptions:

- weaknesses are emphasized and threats from SWOT analysis are materialized;
- agriculture is marginalized in developmental policy of the state;
- economic situation is worsened in regard to new investments in the technological development and modernization of production;
- economic surrounding worsens in regard to output prices (inimical fall in prices compared to existing level) as a result of more radical openness of market;
- budgetary policy remains unchanged in case the prices fall or even current budget support attenuates and no significant donor support is available.

***Optimistic scenario***

Optimistic scenario is expert estimate on production trends in different sectors of production in case:

- most part of the strengths and opportunities from SWOT analysis are materialized;
- domestic prices of agricultural products are stabilized and they gradually move towards EU price levels;
- further strengthening of donor support (especially EU) and increase in domestic budgetary support towards the level offered by Common Agricultural Policy of the EU;
- accelerated (but realistic) investments in modernization and technological development, as well as more comprehensive rural development;
- accelerated introduction of international standards and removing technical constraints to export of agricultural products to the EU markets (introduction of HACCP standards, modernization of slaughtering houses, dairies, fruit and vegetable processing operations, etc.);
- follow up and strengthening of institutional support to development of agriculture;
- follow up of growth trends in adopting domestic products in tourist consumption;
- strengthening of positive relation of consumers towards specific Montenegrin products and products of supreme quality.

***Possible Technological Potential***

Possible mid-term technological potential (MTP) is a realistic estimate on volume of production that stems from the knowledge on current situation and potential according to individual sectors. Comparison with regions of EU members comparable to Montenegro (Greece, Italy, Slovenia, and Austria) is taken as target condition.

Technological potentials of individual sectors may be materialized in specific long term period if Montenegro would use its production resources and achieved average technological level for developed countries. Mid term technological potential is an expert estimate that serves for facilitated elaboration of other scenarios and it represents maximum version that over the time horizon of the analysis is not attainable.

## 11.2 Possible scenarios of agricultural land in use

Total agricultural areas, according to official statistical data, remained relatively unchanged in timeline of the previous ten years, i.e. they stayed at the level of 515 thousand hectares. However, certain changes did happen in the structure of the land. Crop areas and areas under permanent crops decreased in favour of increase in areas under grassland, i.e. they changed to other quasi permanent uses.

*Table A.26: Scenario of agricultural land use*

| | | Start point | | | Pessimistic | | Optimistic | | Technological potential | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Unit | 1992-1994 | 2002-2004 | 1994 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 |
| Arable land | 000 ha | 52,1 | 45,8 | 88 | 22,9 | 50 | 33,6 | 73 | 50,5 | 110 |
| Permanent crops | 000 ha | 14,3 | 13,5 | 94 | 12,2 | 90 | 15,7 | 116 | 21,5 | 159 |
| Meadows | 000 ha | 119,6 | 130,1 | 109 | 95,0 | 73 | 110,0 | 85 | 120,0 | 92 |
| Pastures | 000 ha | 326,6 | 326,0 | 100 | 200,0 | 61 | 244,5 | 75 | 260,8 | 80 |
| **Total Agricultural area** | **000 ha** | **512,7** | **515,4** | **101** | **330,1** | **64** | **403,8** | **78** | **452,8** | **88** |

***Pessimistic scenario.*** In case unfavourable economic surrounding happen (absence or decrease of investments in agriculture) in the following period significant changes would appear in the structure and the total volume of agricultural land. Arable land and gardens, as well as areas under permanent crops would continue to decline, but also radical decrease in areas under grassland would occur (for about one forth), and especially pastures (for almost 40%). This radical decline in the grassland and pastures will happen in favour of scrubs, bushes and forests, which partly already cover those areas (but these changes are not recorded in the statistics). The decline in the areas is partly due to the planned forestation, and partly conversion of land to human settlements and infrastructure. It is against this background that total agricultural areas would decrease for about 35%. Instead of the current 515 thousand hectares, total areas would be reduced to the level of 330 thousands.

***Optimistic scenario.*** According to this scenario, it is realistic to expect that in the following eight-year period time, from the aspect of volume and structure of agricultural land use, tendencies lead towards reaching technological potential, there are somewhere between pessimistic and maximum technological potential. Agricultural area use is a result of movements in different sectors, crop production above all, but tendencies of movement in livestock production as well. In order for this scenario to be accomplished, it is necessary to adjust legislative, with full attention paid to implementing law on agricultural land. Likewise, follow up and increase in direct support to producers, with implementation of other assignments as well, will result in better use of agricultural land.

***Possible technological potential.*** There is a great potential for significant expansion of arable areas and restitution to the level at the beginning of 90s, of about 50 thousand ha. Areas under permanent crops have a potential to grow for almost 60%. This would condition the change in the structure of land use, since areas under grassland and pasture would reduce for 8-10% and 20%, respectively. Even during the projection of the possible technological potential scenario, the expert estimate was that there would be a significant reduction in the available agricultural land to about 450 thousand ha. There are estimates that total agricultural areas are already reduced, but these changes are not administratively recorded yet.

## 11.3 Crop production

### 11.3.1 Cereals

Cereals are the most important component of crop rotation, without which any intensification of crop production is inconceivable. Development of organic production, which is one of the important directions in development of agriculture in Montenegro, requires introduction of ample, functional crop rotations, and cereals are their most important component.

Any significant increase in cereals production is not realistic to expect due to the limited capacity of arable areas. However, more demand of milling and bakery industries for specific sorts of cereals for production of bread (buckwheat, durum wheat, various domestic sorts of barley and ray) may influence that the declining trends in areas under cereals be halted and possibly start increasing. In addition, in order to satisfy the demand of livestock production for concentrated food and alleviating the existing deficit in cereals, increase in areas under cereals is inevitable (at least up to the level of 90s). This expectations in cereals production may occur in the frame of favourable market conditions and implementation of direct payments per hectare.

Current tendencies show that in the last ten years areas under cereals were reduced to one-third. Although yield size per unit area in the same period has grown for 50%, this decline in areas has resulted in reduction of the total production for almost 50%.

*Table A.27: Scenario analysis for cereals*

| | | Start point | | | Pessimistic | | Optimistic | | Technological potential | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Unit | 1992-1994 | 2002-2004 | 1994 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 |
| Area | 000 ha | 18,4 | 6,5 | 35 | 4,5 | 69 | 8,7 | 134 | 17,0 | 262 |
| Yield | t/ha | 1,8 | 2,7 | 150 | 3,5 | 130 | 4,0 | 148 | 5,0 | 185 |
| **Production** | **000 t** | **33,1** | **17,6** | **53** | **15,7** | **90** | **34,8** | **198** | **85,0** | **484** |

***Pessimistic scenario.*** In case there are no direct payments, possible negative tendencies in livestock production and milling industry occur; there would be no provisions for improving cereal production. Complete openness of market and low competitiveness of domestic production would lead to reduction of areas under cereals and only the best producers would survive in production. However, even under such prospective, technological development would continue, which would bring to the slight growth in yield (for about 30%), but the total production would still be smaller then in the reference period.

***Optimistic scenario.*** This scenario forecasts growth of demand in cereals that would condition development of milling and industry for concentrated animal feed. In addition to introduction of direct payments per hectare and with intensified technological development, this would create appreciable growth of production. More to the point, livestock production is gradually developing, which makes the growth in production of cereals on an annual basis of 3% realistic. In parallel, there would be growth in yields, so in 2012-2014 one might expect harvest at about 8.700 ha and production of about 34.800 tons.

***Possible technological potential.*** Total potential in this sector is certainly greater. There are great reserves for yield increase. Increase in yield size up to the European level and return to the yield areas level of the previous period (1992-1994), would increase the production for about five times. In order to accomplish this, it is necessary to reach a more intensive development of livestock production, growth in demand of milling industry, with introduction of direct payments per land.

### 11.3.2 Potato

The situation in this sector in the last few years is significantly improving. There is an obvious change in the structure of production in the direction of higher share of ware production. The share of a probated seed is also augmenting, new, highly productive varieties are introduced in production, technical equipment used in production is improving and all this put together has as a consequence continuous growth of yield per area unit, as well as total production. This trend is largely influenced by seed production policy, as well as

by domestic production protection. Potato prices in Montenegro are high, so production of potato today is also economically simulative.

*Table A.28: Scenario Analysis for Potato*

| | | Start point | | | Pessimistic | | Optimistic | | Technological potential | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Unit | 1992-1994 | 2002-2004 | 1994 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 |
| Area | 000 ha | 8,8 | 6,5 | 74 | 4,1 | 63 | 4,5 | 69 | 3,8 | 58 |
| Yield | t/ha | 4,7 | 12 | 255 | 16 | 133 | 20 | 167 | 30 | 250 |
| **Production** | **000 t** | **41,4** | **78** | **189** | **66** | **84** | **90** | **115** | **114** | **146** |

***Pessimistic scenario.*** In case rapid and complete openness of market happen and without direct payments per hectare this production would, due to the low productivity would be competition. Areas under potato would significantly reduce. Only the best producers would survive in production (ware production) as well as part of the producers that grow potato for own consumption. Although the technological progress would pursue, as well as the growth in yield, the total production would be lower, and the volume of production would depend on meteorological circumstances in various years of production.

***Optimistic scenario.*** Potato production in Montenegro, notwithstanding the favourable conditions in the most part of it is conditioned with domestic consumption. It is not realistic to expect larger amounts of potato to be exported, besides the early potato where significant economic effects might be made. This scenario predicts introduction of direct payments and protection from dumping imports. Technological progress will continue to be made; yield per production unit will also grow. Besides the significant decline in areas under potato, augmented yield would have increased in total production as a final result.

***Possible technological potential.*** Permanent modernization of technological process and improvement of technological equipment in production would help continue the growth trends per unit area and would consequently reach the level of 30 t/ha which would significantly improve the position of this sector. The slight growth of consumption per capita (tourist above all), the production in the significantly smaller areas (3.800) would be above 50% from today.

### 11.3.3 Vegetables

Production of vegetables is one of the sectors where areas and yield rise. Production of vegetables, according to the previous price analysis shows competitiveness. Data is provided for all cultures assembled and it would be important to analyze the structure of the production and to make individual analysis. This should be the subject of separate sector analysis that would enable comprehensive insight in all aspects relevant to this sector, important for Montenegrin agriculture.

*Table A.29: Scenario analysis for vegetables*

| | | Start point | | | Pessimistic | | Optimistic | | Technological potential | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Unit | 1992-1994 | 2002-2004 | 1994 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 |
| Area | 000 ha | 6,5 | 7,8 | 120 | 8,2 | 105 | 10,2 | 131 | 12 | 154 |
| Yield | t/ha | 4,7 | 14,7 | 313 | 18,0 | 122 | 24,0 | 163 | 35 | 238 |
| **Production** | **000 t** | **30,6** | **114,7** | **375** | **147,6** | **129** | **244,8** | **214** | **420** | **366** |

***Pessimistic scenario.*** Intensified openness of market, especially entering of trade systems, would incite the fall in prices for most part of vegetables. This will negatively influence the greenmarket sales and slowdown the existing level of growth. However, unlike most other sectors, in this pessimistic scenario the projection is that increase in production of about 30% will still happen.

***Optimistic scenario.*** This scenario forecasts growing trends. It is realistic to expect that in the following analyzed period the current volume of production will be doubled. This is supported with the process of technological level of production, through investments in protected areas production, mechanization and equipment, improvement of market infrastructure etc. The significant contribution to such development of this sector could

represent return of Montenegrin market to former exporting markets like Bosnia and Herzegovina, Croatia and lately Slovenia.

***Possible technological potential.*** There is relevant unexploited potential for this sector. The areas might increase for about 50%, and yields twofold, which would increase reduction for about 3.6 times. Reaching this technological potential demands better organization, higher level of technologies, increase in protected areas, and creating exporting opportunities. Insisting on growing profitable vegetables and growing autochthonous varieties would help improve the total food offer, which would be sold through tourism offer.

### 11.3.4 Tobacco

Production of tobacco is still of low volume if compared to available land resources. Expert estimate that in the vicinity of Skadar lake there are areas less favourable for growing of other cultures, but which provide all necessary conditions for production of tobacco. Optimal exploitation of these areas would incite significant increase in the production of tobacco.

In regard to prices that were about 2 € for yield in year 2005, tobacco now represents a competitive crop. There is a great interest amongst the producers for growing of this crop. However, further development of this production heavily depends on business policy of Duvanski Kombinat Podgorica and its privatization that will happen during the next year.

*Table A.30: Scenario analysis for tobacco*

| | | Start point | | | Pessimistic | | Optimistic | | Technological potential | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Unit | 1992-1994 | 2002-2004 | 1994 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 |
| Area | 000 ha | 0,29 | 0,19 | 66 | 0 | 0 | 0,35 | 184 | 3,0 | 1.579 |
| Yield | t/ha | 2,10 | 2,10 | 100 | 0 | 0 | 3,50 | 167 | 4,5 | 214 |
| **Production** | **000 t** | **0,61** | **0,40** | **66** | **0** | **0** | **1,23** | **307** | **13,5** | **3.383** |

***Pessimistic scenario.*** If with privatization of Duvanski kombinat Podgorica things would worsen for production of tobacco (insufficient interest of future owner for collection of tobacco, future fall in prices on world market, lack of direct payments for tobacco), then production of tobacco would be put to question. If in this kind of scenario, an alternative market was not found then this production might be extinct.

***Optimistic scenario.*** Follow up with the current positive trends would lead to further growth of areas under tobacco and change in the structure of planted tobacco in favour of large leaves types that are significantly more productive. Introduction of new types of tobacco along with technological improvements would result in yield augment of about 3,5t/ha. Production would reach 1.200 t or trice compared to 2002-2004 period. What should be bared in mind is that yield in year 2005 has reached the level of 630 t. However, it is difficult to predict if positive trends of the previous few years will continue, since generally, conditions for production of tobacco in the EU are worsening (reform of support to tobacco that was the most important one will divide it from production and reduce it still further). If Duvanski kombinat after privatization would still be working with projected capacities, it would demand about 3.000 tons of tobacco a year. If 40% of that production is of domestic origin, which is in accordance with the existing legislative, than this would amount to 1.200 tonnes.

***Possible technological potential.*** Natural potentials in form of available resources for multiple productions do exist. However, it is difficult to make any estimates on competitiveness, so this technological potential is only theoretical and have to be regarded with certain constraints. If there is export opportunity, this production should be extended in accordance with this demand, since the available land resources in Montenegro could provide enormous increase in production of tobacco, especially barley type, of which Montenegro could become the first producer in Europe. Export opportunities would enable further augment of this production. Production in about 3.000 ha, with yield of 4,5t/ha would make Montenegro an important exporter of tobacco.

### 11.3.5 Fruit production

Climatic and land conditions enable growing of various fruits, continental and subtropical. Production of fruits in Montenegro, except from pear and tangerine, is mostly extensive. Opportunities that arise from the presence of a great number of wild fruit species are underused. Lack of processing capacities and lack of market channels are the main reasons why development of this sector is so slow. Processed products from fruits, jams, dried fruits, etc. are mostly imported.

Data on the existing production are cumulated for all species so it would be very important to make an analysis of all fruit species individually, especially as regard competitiveness and opportunities for exports (pear, tangerine) and real opportunities to increase areas in any of the assumed scenarios.

*Table A.31: Scenario analysis for fruits*

| | | Start point | | | Pessimistic | | Optimistic | | Technological potential | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Unit | 1992-1994 | 2002-2004 | 1994 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 |
| Area | 000 ha | 7,6 | 6,4 | 84 | 4,8 | 75 | 6,7 | 105 | 8,7 | 136 |
| Yield | t/ha | 3,1 | 4,5 | 143 | 4,9 | 110 | 5,2 | 116 | 8,2 | 183 |
| **Production** | **000 t** | **23,8** | **28,6** | **120** | **23,6** | **83** | **34,7** | **121** | **71,1** | **249** |

***Pessimistic scenario.*** In case market conditions are worsened, fall in areas under fruit of 35% would inevitably happen. It is estimated that even under these circumstances there would be growth in yield per area unit, so that the total production would decline for about 15%.

***Optimistic scenario.*** Substantial investments in creating new plantation of fruits of about 100 and 150 ha have to be made in the following period which would bring back the level of fruits as it was in year 1992. All investment in modernization of technology and improvement of market infrastructure are directed towards this path. With the planned increase of investments in this sector, yield per area unit would augment and this could lead to increase in production of more than 20%. Trends for intensive growing of fruits are extremely favourable for relatively new cultures (raspberry, kiwi, etc.) as well. Positive trends in export (and tourism) are one of the main drivers of further development of this sector.

***Possible technological potential.*** Available potential in this sector is not nearly exploited enough. To valorise the existing potential in this production it would be necessary to plant about 500 ha of orchards a year. This would lead to the important increase in production for about 2.5 times.

### 11.3.6 Olive Production

Olive covers about one third of the total area under orchards. Older trees and autochthonous species prevail, which are mainly used for production of oil, as well as for production of conserved fruits in traditional way. The yield considerably varies. There are gradual changes in the last few years, especially when capacities for production of olive oil are considered, with provision of smaller oil operations, as well as with the restoration of old plantations.

Olive market exists and domestic production is below the current domestic consumption. Stronger integration with tourism would enrich offer and contents in regard to health tourism, Mediterranean diet, characteristic ambient, etc. This would also represent one of the basic standpoints for olive production to become once again economically interesting sector of agriculture.

*Table A.32: Scenario analysis for olive production*

| | | Start point | | | Pessimistic | | Optimistic | | Technological potential | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Unit | 1992-1994 | 2002-2004 | 1994 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 |
| Area | 000 ha | 3,00 | 3,20 | 107 | 3,3 | 103 | 4,2 | 131 | 5,2 | 163 |
| Yield | t/ha | 0,25 | 0,41 | 164 | 0,7 | 171 | 1,7 | 415 | 2,9 | 707 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Production** | **000 t** | **0,75** | **1,31** | **175** | **2,2** | **168** | **7,1** | **541** | **14,9** | **1136** |

***Pessimistic scenario.*** In comparison to most of other sectors, olive production is predicted to grow in pessimistic scenario. With current production remaining stagnant, with the program of restoration of old trees, increase will happen in the production of fruit and oil. In addition, new plantations of current trend of 4.000 trees a year would increase area under olive for about 100 ha in the following period.

***Optimistic scenario.*** Intensification of investments, especially through support to new investments, would enable significant increase of the olive fruits. If 40.000 trees a year are planted, areas under olive in the following eight years would increase for about 1.000 ha, yield on 10 kg, and production of oil on 2.2 l per capita. Development of tourism would provide marketing of this product through this economy sector.

***Possible technological potential.*** In olive production sector enormous potential lies. National program of development and investments in restoration of existing and intensive plantation of new trees would provide increase in areas under olives as well as optimal use of yield, which would increase the production of oil to 4.6 l per capita. Market channels for full valorisation of this production and introduction of standards in the production, would increase the total production for about 11 times.

### 11.3.7 Viticulture

Production of grapes in Montenegro experiences growing tendencies. Wine is the most important exporting product of Montenegro. It has relatively comparative prices. About one half of production is realized in areas of AD "13 jul - Plantaze", that produce wine in modern equipped operations with high technological standards, including ISO and HACCP quality standards. Capacity of the processing operation is about 3.000 thousand litres.

*Table A.33: Scenario Analysis for Viticulture*

| | | **Start point** | | | **Pessimistic** | | **Optimistic** | | **Technological potential** | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Unit** | 1992-1994 | 2002-2004 | 1994 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 |
| Area | 000 ha | 3,7 | 3,9 | 105 | 4,1 | 105 | 4,8 | 123 | 7,6 | 195 |
| Yield | t/ha | 6,7 | 9,6 | 143 | 9,8 | 102 | 9,3 | 96 | 9,0 | 93 |
| **Production** | **000 t** | **24,9** | **37,6** | **151** | **40,2** | **107** | **4,6** | **119** | **68,4** | **182** |

***Pessimistic scenario.*** Regarding the achieved level of development and improved position on domestic and foreign markets, trend of permanent growth of areas under grapes will continue further on even if overall economic situation does not improve. Without further investments in this sector, vineyard areas will continue to grow, as well as specific growth of yield per area unit. The only potential obstacle to this sector might be weak privatization of AD "13 jul - Plantaze" which is expected to happen over the next period.

***Optimistic scenario.*** It is realistic to expect that the vineyard areas in the following period will increase for about 1.000 ha, as there are available land areas and extreme interest for creating new vineyard areas in private sector. This is in accordance with planned development of "13 jul - Plantaze", leader in this type of production. Due to the demanded quality of wine, it might be expected that lower yield per area unit will be searched for, but this will bear no negative effect on the total production in this sector. Although, it is not expected that any significant growth in production will occur (about 20%), it is realistic to expect positive economic effects since the quality of exported wine is constantly improving.

***Possible technological potential.*** Available resources for planting of new trees are significantly higher than the existing ones and they enable for the production to be almost doubled. For reaching technological potential it is necessary to commercialize private production or to make strong integration (vertical integration) with AD "13 jul - Plantaze". Investments in restoration of plantation, marketing and organization of producers are very important. This significant increase in the production of grapes and wine should be accompanied with intensive marketing and promotion that creates opportunities for marketing of domestic high quality wines to new markets around the world.

## 11.4 Prospective Development in Livestock Production

### 11.4.1 Backgrounds

Total livestock production entails two types of production. The first one is breeding of ruminants (cattle, sheep and goat), and horses based on exploitation of available agricultural areas, and the second one breeding of poultry and pigs which is by nature predestined to more or less intensive, industrial way of production.

What must be taken care of during the projection on further livestock production is sustainable use of available natural resources. This means that all needs for forage animal feed may be satisfied from the available natural resources. The existing number of ruminants is expressed through livestock unit - LU is somewhere around 195 thousands LU, and production of dry forage is at the level of 600 thousand tons. Average production of 3.1 tons of dried feed per conditionally taken head may completely satisfy the current needs of livestock production.

Bearing in mind above stated projections on further exploitation of agricultural land, with higher technological processing level, it is expected that the volume of forage feed may increase (on 3.5 up to 4 tons). This volume of production of forage plants represent basis for projections in livestock production of ruminants.

### 11.4.2 Production of cow milk

The last ten-year period is characterized by relatively stable number of dairy cows and growth of production per head for about 30%. Total population of cows can conditionally be divided to: productive herds that are mainly kept for the commercial production of milk and suckler cows of which significant part of the milk is used for breeding of calves, and the rest for household consumption and processing in dairy products. Future projections of the volume of milk production are related only to the population of dairy cows.

The sector of cow milk production experienced numerous structural changes lately: improvement of breed structure of dairy population, increase in a number of dairy cattle per farm, appearance of the commercial farms in private sector. In addition, processing sector was enlarged with new operations and with a new palette of products.

Perspectives of further development of milk production, generally taken, will be characterized with the decline in the number of dairy cows and growth in production of milk per head, and in parallel, the share of heifers in total population will grow.

*Table A.34: Scenario analysis for milk*

| | | Start point | | | Pessimistic | | Optimistic | | Technological potential | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Unit | 1992-1994 | 2002-2004 | 1994 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 |
| No of dairy cows | 000 | 105 | 95 | 90 | 80 | 84 | 70 | 74 | 60 | 63 |
| No of suckler cows | 000 | 0 | 9 | | 15 | 167 | 30 | 333 | 45 | 500 |
| Milk yield (dairy cows) | kg/head | 1600 | 2300 | 144 | 2700 | 117 | 3600 | 157 | 4500 | 196 |
| **Production** | **000 t** | **168** | **218,5** | **130** | **216** | **99** | **252** | **115** | **270** | **124** |

***Pessimistic scenario.*** If the next period would bring negative developments in the production, due to the opening of market and strong competitiveness, and fall in prices, that would inevitably lead to the decline in number of dairy cows (due to the extinction of smaller farms) for about 15%. However, production of milk per head would still be augmenting (for about 17%), so that the total production of milk would remain at the same level or somewhat lower (about 1%). This scenario also forecasts further commercialization of farms, division of farms oriented to production of milk from the ones whose heads are ranked as suckler cows.

***Optimistic scenario.*** Desirable structural changes will continue in the following period: increase of milk yield per head, and especially enlargement of farms (increase of the number of heads per farm) and total production of milk per farm, as well as improvement of technological level of production. In the event, it is not realistic to expect some larger increase in the total production of milk, since it is mostly conditioned with domestic

consumption, due to the limited export opportunities. It is against this background that that the expected increase of the production of milk will be around 15%, reaching the level of 252 million kg, which is approximately equal to the current demands in Montenegro. This level of production might be achieved with population of 70.000 dairy cows (which is for 26% lower than the current) and the average production of 3,600 kg per head (or 57% higher than the current one). At the same time, significant increase in the number of cows would happen, with the number of 3.000 heads.

***Possible technological potential.*** Milk production potential is estimated at about 270 million kg, which could be achieved with the improvement of technological level of production, and significant investments in this production. This would require increase in the production at the level of or approximately comparable to countries with similar natural conditions for this production. In these circumstances, the number of productive (dairy) cows would fall to 60.000, with the same growth of production per head on 4.500 kg in lactation. During this projection one has to bear in mind that the production is largely influenced with domestic consumption (including tourist consumption), and that the export of significant amount of milk is not projected here. It is realist to expect that in the same period the number of cow will increase at about 45.000 heads, or augment to about five times.

### 11.4.3 Sheep milk

Sheep production in Montenegro is characterized with declining trends in breeding heads, and particularly milking population in the last years. So, according to estimates in the last ten years the number of milking sheep has decreased for more than a half (it is smaller for 57%) and it amounts to 140.000 heads. At the same time the production of milk per head has increased for 43%, so that the total production of milk has decreased for about 40% and currently it is at the level of 7.3 thousand tons.

From the milk production aspect, total population of sheep in this scenario analysis is divided to categories of dairy sheep, that are milked after they reject their lambs, and the milk is used for the production of autochthonous dairy products, and category of suckler sheep that are used only for production of lambs, that is to say meat (milk is used to feed lambs only). Decrease in the number of dairy sheep is accompanied with the number of suckler sheep of about 20%.

*Table A.35: Scenario analysis for sheep milk*

| | | Start point | | | Pessimistic | | Optimistic | | Technological potential | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Unit | 1992-1994 | 2002-2004 | 1994 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 |
| No of dairy sheep | 000 | 327 | 140 | 43 | 120 | 86 | 155 | 111 | 190 | 136 |
| No of suckler sheep | 000 | 45 | 55 | 122 | 60 | 109 | 115 | 209 | 145 | 264 |
| Milk yield (dairy sheeps) | kg/head | 36,4 | 52 | 143 | 56 | 108 | 60 | 115 | 70 | 135 |
| **Production** | **000 t** | **11,9** | **7,3** | **61** | **6,7** | **92** | **9,3** | **128** | **13,3** | **183** |

***Pessimistic scenario.*** If market would open radically and the prices in lambs and lamb meat would fall in the following period, this would inevitably lead to the further decrease in the number of dairy sheep (15%). Milk production per head during the same period would show slight growth, so that the total production of sheep milk would fall for about 8 to 10% compared to the current one.

***Optimistic scenario.*** Favourable tourist tendencies create opportunities for adequate valorisation of the specific dairy products (cheese and fat spread products). This tendency is followed with increased interest for commercial farms and improvement of production conditions through increase in technological level (introduction of milking pumps, modernization of domestic processing and introduction of processing of sheep milk in larger dairies). This would increase the production in the following ten-year period to the level of 9 to 9,5 thousand tons, that would represent increase of about 25 to 30 % compared to the current level. This level of production would be achieved through the increase in the number of dairy sheep for about 105% and the rise in the level of production per head of about 15%, at about 60 kg/sheep.

***Possible technological potential.*** Technological potential in sheep milk production is significantly larger than the current one. This potential could be reached with intensive

investments in the improvement of production technology, introduction of quality standards and intensive change to organic production. This potential is projected at about 190 000 dairy heads, with the rise in milk production of about 70 kg per head. This would raise the production for about 85%.

In any given scenario of milk production perspectives, the number of suckler sheep has growing tendencies.

### 11.4.4 Goat milk

There is a growing trend in the number of breeding heads in goat production, as well as in the total production. Production of goat milk is especially interesting, as well as milk products due to their specific features (therapeutic, dietetic and other) they have a character of exclusive products and relatively high price at the market.

The existing population of 43.000 breeding heads with the average production (according to estimates) of about 95 kg (without the milk for the kids) reaches production of about 4.000 tons of milk.

*Table A.36: Scenario analysis for goat milk*

| | | Start point | | | Pessimistic | | Optimistic | | Technological potential | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Unit | 1992-1994 | 2002-2004 | 1994 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 |
| No of dairy goats | 000 | 28 | 43 | 154 | 40 | 93 | 62 | 144 | 90 | 209 |
| Milk yield | kg/head | 70,0 | 95 | 136 | 102 | 107 | 130 | 137 | 160 | 168 |
| **Production** | **000 t** | **1,96** | **4,1** | **208** | **4,1** | **100** | **8,1** | **197** | **14,4** | **353** |

***Pessimistic scenario.*** If market conditions for this production would worsen, which is hardly probable, in the following period the number of farms would decrease as well as the number of breeding heads. As slight growth in production per head is also expected to happen under these circumstances, the total production of milk would stay approximately at the same level.

***Optimistic scenario.*** Bearing in mind the current positive trends in goat production, as well as solid available resources, it is realistic to expect that in the following period the total goat production, as well as production of goat milk will have growing tendencies and that it would be moving towards reaching the technological potential. It is forecasted that the number of dairy goats and milk yield per head will also grow. Since the basis for development represent extensive goat production, based on the use of cheap resources of forage food, it is not expected that the significant rise in the yield of the milk will happen, it will stay at the same level (137 kg) which is characteristic of domestic Balkan goat.

***Possible technological potential.*** If we bear in mind that the volume of current production is relatively small and that the products made of goat milk have emphasized marketing character, and that the significant part of it is marketed through tourist consumption, than the existing potential is much larger than the current one. In the case of significant technological improvement, including introduction of standards, the number of goats might be more than doubled, it could reach 90 thousand dairy goats. The number of heads would be followed with increase in production per head of about 70%. This would increase the level of milk production to 14 or 15 thousands tons, which is 3,5 times more than today.

### 11.4.5 Beef meat

Cattle production in Montenegro (production of milk and meat), generally taken, is characterized with relatively high prices and low competitiveness compared to the surrounding countries and further. Since there is no clear distinction between milk and meat cattle production, structural changes that happened in the sector of milk production relate to the production of beef meat.

In the last ten years production of beef meat was experiencing slight growing tendencies (at the total level 10%) and it now amounts to 9,6 million tons, which is followed

with the decrease in the number of slaughtered heads, and increase in the carcass weight from 98 to 118 kg/head.

Future perspectives of development of this production will depend on general situation as well on the measures of agricultural policy.

*Table A.37: Scenario analysis for beef meat*

| | | Start point | | | Pessimistic | | Optimistic | | Technological potential | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Unit | 1992-1994 | 2002-2004 | 1994 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 |
| No of slaughtered animals | 000 | 90 | 87 | 97 | 79 | 91 | 82 | 94 | 84 | 97 |
| Carcass weight | kg/head | 98 | 110 | 112 | 120 | 109 | 140 | 127 | 165 | 150 |
| **Production** | **000 t** | **8,8** | **9,6** | **110** | **9,5** | **99** | **11,5** | **120** | **13,9** | **145** |

***Pessimistic scenario.*** Bearing in mind the structural difficulties in this sector and the low competitiveness, in the case openness of market happens and current support to sector fails, there would be a stagnation, or even deterioration in the current state of the production. The number of slaughtered heads would fall, though this would be followed with certain increase in the carcass weight (for 9 to 10%). In these circumstances it might be expected that the total production of beef meat might remain at the approximately same level or slightly less level that the current.

***Optimistic scenario.*** This scenario forecasts that the market conditions would be stabilized and that the follow up with the vertical integration between two prosperous meat industries and primary sector would happen. Stabile growth of this sector requires considerable budget support, since this is the sector in which multifunctional character of agriculture is reflected the most, as well as the close connection with the rural development. Additional impulse to the rise in the production of meat will give rise of the dairy sector. It is realistic to expect that in the projected period production of beef meat will rise for about 20%, and the achieved production would amount to 11.5 tons of beef meat, which would represent significant improvement, however would be still below the current needs.

***Possible technological potential.*** While considering the possible technological potential, what one should bear in mind is that the domestic production is conditioned with domestic consumption, because the export opportunities of different sorts of beef meat (all categories) are currently very limited. Intensified investments and technological break through would enable increase in production of about 50%, at the level of 160 kg/head. Increase in the live weight would be achieved through the extended breeding of calves, and partly with the intensive fattening of young bovine animals. Exploitation of these potentials would create production of about 14 thousand tons of meat.

### 11.4.6 Sheep meat

Sheep production faces declining trends in the number of breeding heads lately, and with this the number of slaughtered heads and production of meat, as the major product of sheep production. Although the current prices of sheep meat are relatively low and competitive, especially when compared to the EU countries, due to the inadequate technological equipment of slaughtering houses there is no export yet. In the last ten years the number of slaughtered heads and the production of sheep meat are decreasing and it now amounts to 4.5 thousand tons.

*Table A.38: Scenario analysis for sheep meat*

| | | Start point | | | Pessimistic | | Optimistic | | Technological potential | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Unit | 1992-1994 | 2002-2004 | 1994 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 |
| No of slaughtered animals | 000 | 352 | 199 | 57 | 185 | 93 | 280 | 141 | 340 | 171 |
| Carcass weight | kg/head | 22,1 | 22,3 | 101 | 20 | 90 | 20 | 90 | 20 | 90 |
| **Production** | **000 t** | **7,8** | **4,4** | **57** | **3,7** | **83** | **5,6** | **127** | **6,8** | **153** |

***Pessimistic scenario.*** In order to achieve this scenario it is necessary that the migration processes in direction village-city gets strong in the "sheep areas" of Montenegro and also the complete lack of measures for support to rural areas to happen. Farms would

start to disappear and the number of slaughtered heads would decrease as well as. The production of meat would fall for about 15 to 20% in the observed period.

***Optimistic scenario.*** Assumptions for optimistic projection are: halting the negative trend in the number of sheep and increase in the number of heads in larger herds, competitive prices of lamb meat, positive tendencies in tourism, affirmation of lamb meat consumption through national restaurants, movement of slaughtering houses, and reaching the exporting standards, follow up with the budget support for sheep production. This scenario forecasts increase in the number of slaughtered lambs of about 40%, with adjustments of weight to the market demands, which would mean decrease in the average carcass weight for 90% from the current level.

**Possible technological potential.** Potential in this production is well above the current level of production, especially in regard to the existent competitiveness in prices and available resources in land areas for this production. With significant technological advances in all phases of production, especially in the segment of technical enabling for the export demands, production of sheep meat may increase for about 50%, reach the volume of 6.5 to 7 thousand tons. This production may be achieved through the increase in the number of slaughtered heads for about 70%%, which would lower the slaughtered weight.

### 11.4.7 Pork

Production of pork in Montenegro is at the low technological level with relatively high output prices and low competitiveness. This is why the volume of production is well below the level that would satisfy domestic needs.

During the last ten years with occasional oscillations, there was a slight declining trend in the number of slaughtered heads and increase in the slaughtered gain of this heads (for about 10%), so that the production of pork has more or less remained stagnant (4 to 4.5 thousand tons).

*Table A.39: Scenario analysis for pork*

| | | Start point | | | Pessimistic | | Optimistic | | Technological potential | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Unit | 1992-1994 | 2002-2004 | 1994 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 |
| No of slaughtered animals | 000 | 63 | 56 | 89 | 50 | 89 | 73 | 130 | 85 | 152 |
| Carcass weight | kg/head | 69 | 76 | 110 | 80 | 105 | 76 | 100 | 75 | 99 |
| **Production** | **000 t** | **4,4** | **4,3** | **97** | **4,0** | **94** | **5,5** | **130** | **6,4** | **150** |

***Pessimistic scenario.*** Taking into consideration the existing economic surrounding for this production, it is not expected that the higher level of commercialization of the pork will happen in the following period. If no strong connection between slaughtering and meat industry with primary sector is created, a slight fall in the number of slaughtered heads might happen (up to 10%) with the increase in the slaughtered weight, so that the total production more or less would remain at the same level or be a little below the current one.

***Optimistic scenario.*** Projections in this scenario are possible to create if there was a strong bound between meat industry and primary production. This would also be supported with adequate production sectors: production of concentrated animal feed - farms - industry - market. Decrease and complete repression of export subsidies in countries from which raw material for domestic meat industry is imported would direct their demand towards domestic production. With this kind of scenario it is realistic to expect that in the following period a rise of production of about 30% will occur, which is still well below the domestic needs.

***Possible technological potential.*** There are appropriate assumptions that mid-term technological potential in the production of pork might be significantly greater than the current ones. Current coverage of domestic consumption with production is below 40%. Significant driver to production might be already founded and defined capacities that are engaged in drying and production of smoked pork products, like Njeguški pršut etc. It might be expected that the interest of all economic subjects, in order to protect geographic origin of their products or in order to gain trade marks, would be to purchase part of their meat from domestic producers. With the above-mentioned assumptions and inevitable technological improvement, production of pork might rise for about 50% and reach the volume of about 6.5 thousand tons.

### 11.4.8 Poultry meat

Poultry meat sector in the last few years is characterized with the numerous structural changes like: opening of a number of commercial farms that are involved in the fattening of broilers, foundation of plants for production of animal feed, formation of incubator stations and parent fleet. We should also add here that modern slaughtering and processing capacities have been founded. All this has influenced that the production of poultry meat increase for about 60%, with the broiler production above all. The existing production of poultry meat, according to estimates, amounts to 2.4 thousand tons.

*Table A.40: Scenario analysis for poultry meat*

| | | Start point | | | Pessimistic | | Optimistic | | Technological potential | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Unit | 1992-1994 | 2002-2004 | 1994 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 |
| **Production** | **000 t** | **1,5** | **2,4** | **160** | **2,6** | **108** | **4,0** | **167** | **5,1** | **212** |

***Pessimistic scenario.*** In case of pessimistic scenario, that would entail rapid and complete openness of market and competitive pressures on meat whose export from abroad is still supported, market distortion would appear as well as the fall in volume of commercial production. This would have as a consequence halting of the existing growing trend and stagnation in production at approximately current level or eventual slight increase in production.

***Optimistic scenario.*** According to this scenario, production of poultry meat in the next ten years will continue with existing growing trends, with more competitiveness of products and promotion of consumption of meat in fresh and refrigerated state. Further growth will be conditioned with growth in consumption of this kind of meat. Compared to the current level, it is realistic to expect that in the projected period the growth of 60% will happen.

***Possible technological potential.*** If production of poultry meat stays competitive at the domestic market, then there are real chances that the production will continue to grow. Under these circumstances the production might more then double and reach the level of about 5.000 tons of poultry meat, which would be near to domestic demands.

### 11.4.9 Eggs

Production of eggs in the last ten years experienced growth of about 37%. Current production is at the level of about 120 million pieces, of which approximately 60% originates from the purely commercial production (large - ex government owned farms and a few family farms capacity of 10.000 birds). The rest of the production is mainly operated on households. Production of eggs is characterized with relatively high prices, which has as a consequence relatively low competitiveness. However, as this is a specific product with relatively short expiry date, it found its place in the domestic market.

*Table A.41: Scenario analysis for eggs*

| | | Start point | | | Pessimistic | | Optimistic | | Technological potential | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Unit | 1992-1994 | 2002-2004 | 1994 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 | 2013 | 2002-04 =100 |
| **Production** | **mil. pieces** | **87,6** | **120** | **137** | **110** | **92** | **140** | **117** | **170** | **142** |

***Pessimistic scenario.*** If in the following period there are negative trends in business surrounding and disparity of prices of basic inputs, than the production of eggs would stagnate and the volume of production on households would decline, as well as the commercial production. At the total level the production would fall for about 10%.

***Optimistic scenario.*** Bearing in mind the specificity of this production that is reflected in the fact that population is locally supplied with this product and that there is no strong pressure form distant destinations, production of eggs in the following period will have a growing trend (although slower then in the previous decade) and it will move toward technological potential.

***Possible technological potential.*** Mid-term technological potential in the production of eggs should be production of 170 million pieces of eggs, if competitiveness on domestic market is kept. This would represent increase in the existing production of about 40%, which could satisfy the total needs of Montenegro.

# 12 CONCLUDING REMARKS

What has the previous analysis shown? Agriculture plays an important role in economic development of Montenegro, since agriculture contributes more then 10% to GDP. The role agriculture plays in the development of rural areas is even more important, since agriculture is still dominant occupation of rural population.

Besides all the constraints agriculture faces in regard to transition processes and general economic lagging, agriculture was experiencing growing trends averaging 2.8% during the 1990s.

It is necessary to emphasize that in the previous period certain changes have happened in regard to the relation of the society towards this sector, and that there were certain reforms (liberalization of market, changes in agricultural policy and height of the budget support for agriculture, as well as institutional changes). Positive changes have give rise to the volume of production in these unfavourable economic conditions, but there are no visible indicators of these positive changes: the agricultural production unit is small and fragmented, there are significant areas that are not used, technological level of production is unfavourable, implementation of modern standards in production, especially agriculture is still at the very low level, and total productivity is low.

In this regard the most important conclusion of the current state analysis is that the price competitiveness of Montenegro is very low, which might be readily explained with the above-mentioned unfavourable structural characteristics. Result of the low competitiveness of Montenegro is the data that Montenegro is a net importer of food with significant deficit (€145 million), which is equivalent to 10% of total GDP, and on the other hand it disposes of considerable land resources (0,84 ha of total and 0,30 ha of arable land per capita).

Montenegrin government has tried to resolve the problem of competitiveness by providing support to agriculture. Analysis of the support shows that Montenegro is between countries with the middle level of support to agriculture. However, the analysis also shows one paradox: budget support is very low (about €10 per capita) and it is at the significantly lower level than in the countries that have accessed to EU (€70), but 95% of that aggregate support is conditioned with price support. Even the price support is not the result of border protection, but conditions at the market.

Montenegrin agriculture has got some potential, but there are some threats in front of it as well. SWOT analysis shows that there are certain advantages and opportunities in front of agriculture, whose valorisation will represent a great challenge to this sector.

Analysis of the current state and SWOT analysis enable predictions and expert estimates on the future perspectives of agriculture. According to these estimates, in form of scenario analysis, there are real technological potentials for significant increase in production in the next ten years, and in some sectors for more then double. However, to accomplish optimistic scenario it is necessary to fulfil certain preconditions: favourable economic situation, strengthening of institutional and financial support to further development, successful accomplishment of integration with WTO and EU. Scenario analysis also provides an overview of the pessimistic scenario, if some preconditions are fulfilled. This would mean halting of development and marginalization of agriculture once again, which would bear negative consequences at the total development of rural areas.

Bearing in mind all the abovementioned estimates, integration processes (integration with WTO and EU) that define future framework of development, Montenegro is left with only one option: based on the previous experiences and results, it should go towards strong surpassing of structural obstacles and numerous challenges. It is necessary that Montenegro reaches a decision on the role of the state towards that development. European road imposes this as an urgent obligation.

Which are the preconditions for further development and further steps to be taken:

- defining of the new concept of agricultural development, along with all the necessary elements for its implementation in the new agricultural policy;
- follow up and intensification reforms in agricultural policy, legislative, as well as in the area of institutional support to agriculture.

Responses to that challenge might be found in the Strategy document B "Platform, Objectives and Pillars of the Reform", which is a result of this analysis.

# MONTENEGRO'S AGRICULTURE AND EUROPEAN UNION
# Agriculture and Rural Development Strategy

Document B

**PLATFORM, OBJECTIVES AND PILLARS OF THE REFORM**

# 1 POLICY CHALLENGES

## 1.1 International framework and requirements, national strategies

### 1.1.1 New role of agricultural policy in the world and the EU

In the era of increased globalization, the question that arises for a country as small as Montenegro is how to position its own agriculture, enable it long-term sustainable development and fit into wider integration processes without major shocks. Observing global tendencies, examples of nearer and broader surrounding should be taken.

It is noticeable that what economically developed countries request in internationally is not always in harmony with their usual practice in domestic policy. Acknowledging of the market, its liberalization in international trade are demanded strongly by the developing countries, but at the same time, as a result of economic and political interests, developed countries make efforts to maintain strong support for agriculture and rural areas for as long as possible. That support has undergone changes in the last few years, by making these more based on market principles, but it goes with increasing budgetary support to the realization of direct objectives in agriculture, particularly as regards payment of external functions, that effect the impact food production has on the environment and consumers. Most of these changes take place under the trade liberalization within the World Trade Organization and changes in national policies (CAP reform in 2003, US policy in 2002).

Under the Doha round of negotiations of the World Trade Organization, an attempt is being made in order to provide better access to the markets of developed countries, to abolish export subsidies that are applied by developed countries and reduce and coordinate domestic support with WTO principles. The end of negotiations is called for by the end of 2006, and it will influence national policies in future. Considering that Montenegro is soon to begin negotiations for independent association with the WTO, international criteria will have to be better incorporated into its national policy. It should be noted that experiences of countries that are members of WTO and which made significant progress in the European integration process show that the competitiveness of domestic agriculture is to be developed together with liberalization, even through the introduction and gradual increase of direct governmental support to producers.

Montenegro decided to strengthen the European integration processes with the ultimate objective of joining the EU. For that purpose, stronger harmonization with objectives and instruments of the Common Agricultural Policy is required. That harmonization is quite demanding, since CAP undergoes permanent reforms and it is a moving target, particularly for countries which, like Montenegro, are at the beginning of the integration process. Of course, implementation of elements and principles of the policy that are more modern and have long term significance should be aimed for. That is why it is important that CAP is thoroughly analyzed, constantly monitored and implemented in line with both the capacity and needs of the country.

CAP objectives were set by the Treaty establishing the European Economic Community, in Rome, in 1957. Article 39 of the Treaty sets the following objectives for agricultural policy:

- to increase agricultural productivity by promoting technical progress and by ensuring the rational development of agricultural production and the optimum utilisation of the factors of production, in particular labour;
- to ensure a fair standard of living for the agricultural community, in particular by increasing the individual income of people engaged in agriculture;
- to stabilise the agricultural market;
- to assure the availability of food supplies;
- to ensure that food supplies reach consumers at reasonable prices.

For the purpose of accomplishing the abovementioned objectives, an agricultural policy of high price support had been applied for decades. When compared to other objectives, income problems of agriculture and the achievement of a fair standard of living had the priority. Instruments and their strength have been changed throughout the development of CAP, but the main legal contours remain.

The EU common agricultural policy is implemented through two basic groups of instruments (CAP pillars):

- Common Market Organizations – CMO and
- Rural development policy.

Common market organizations relate to all important products or product groups, they are implemented separately, but they have some characteristics in common. This group includes the following instruments and measures:

- Foreign trade measures (import customs levies and export refunds),
- Measures for internal market stabilisation (intervention buying-in, financing of private storage of agricultural products, consumption support),
- Measures that restrict or reduce production – supply management measures (milk and sugar quotas, set aside policy),
- Various forms of direct payments to producers (premium per ha for some crops and per head of livestock),
- Other measures (market standards, promotions, information system, and administrative-control system).

The second part of the EU Common Agricultural Policy relates to rural development policy. These measures are focused on increasing competitiveness, sustainable management of natural resources and incentives for the diversification of the activities of the rural population.

In different periods of time, groups of CAP measures had different importance. At the beginning, CAP was based, above all, on price support based mainly on high foreign trade protection. Such a policy resulted in an increase in productiveness and a significant increase in production, which transformed the EU from a net importer of food into the second largest exporter of food in the world.

This increase in agricultural production resulted in a rapid increase in the costs of the sale of surpluses of agricultural products through export subsidies, particularly milk and dairy products, grains, sugar, etc. That is why, in 1984, restrictions in milk production were introduced through a system of quotas. Eventually, for the same purpose, the set-aside program for some arable crops was introduced.

Significant changes to CAP were brought by the so-called McSharry reform in 1992 through a reduction in price support, an increase in direct payments and the introduction of new forms of support to rural development, particularly the programs for environmentally more acceptable production. The Agenda 2000 follows the same direction and under it, further decreases in institutional prices and increases in direct payments have been agreed, with an even stronger linkage of these payments to fulfilment of environmental requirements. With these reforms, the Common Agricultural Policy has turned from an income policy via higher prices to a policy of supplementing farmers' income by direct payments.

The latest CAP reform from 2003 consists of decoupling direct payments from production and has introduced a single farm payment scheme based on the sum of payments made to the individual farm in the reference period (mean 2000-2002). The condition for receiving direct payments is met through specific criteria regarding environmental protection, food safety and animal welfare (the so-called cross-compliance). There is an extra emphasis on rural development through an obligatory gradual decrease in direct payments and funds saved in that way (modulation) are transferred to the second CAP pillar – rural development programs. New directions of rural development provide for a long list of measure that shall be focused on three main levers of support to rural development: 1) competitiveness of agriculture, food industry and forestry; 2) sustainable management of natural resources 3) diversification of economic activities and improving the quality of life in rural areas.

The above mentioned CAP reforms were aimed at removing its weaknesses but at the same time it maintained support to producers at approximately the same level.

Lesson should be drawn from this background and function of CAP, so in developing the Strategy of Montenegro agricultural policy the current solutions from CAP should not be simply copied from; the CAP is a moving target, however, the main principles of the policy and future reforms cannot be ignored.

### 1.1.2 EU integration requirements for Agriculture

The experiences of the integration processes in other countries show that agriculture is one of the most demanding, and is certainly the sector with the most extensive obligations in the process of accession with the European Union. That is why the review of obligations that need to be fulfilled in the process shall be given in more detail, in order to back up the thesis regarding the complexity and gravity of the process in the sector of agriculture. This chapter is focused on the administrative infrastructure necessary in order to provide the free flow of goods and implementation, management and control of the Common Agricultural Policy.

***Food safety: veterinary, phyto-sanitary fields and animal nutrition***

The EU legislation in this field aims at facilitating the internal and foreign trade in the veterinary sector, plant protection and animal nutrition. By protecting the health of plants and animals, together with animal welfare, the health of the population is protected and thus the expectations of consumers are met. The main precondition for enlargement of the common market in this field to associated countries, in addition to coordination of legislation, is having an adequate and trained administration in place. In general, it requires adequate control systems. Administrative capacity needs to be strengthened and national competent authorities established in order to ensure adequate implementation of legislation in this field, with an adequate number of trained staff and adequate means and programs.

***Common Market Organizations (legislation that regulates agricultural markets)***

The implementation, management and control of CAP require development, modifications and the strengthening of adequate administrative capacities. It is necessary to establish administration for CAP financial flows (paying agency) as well as special information systems for policy pursuit, such as IACS (Integrated Administration and Control System) and various registries. Special attention should be paid to the quality policy and various product classifications.

***Rural development***

Establishing an administrative structure that must be capable of: identifying the structural needs of rural areas; development, implementation and management of rural development programs; control of financial flows and measures undertaken; monitoring, reporting, control and evaluation of programs and separate activities, to prepare, implement and absorb pre-accession funds (IPARD).

### 1.1.3 Important strategic documents – reform framework

There are a number of documents that make up the wider framework for the strategy backgrounds of agriculture: Montenegro Ecological State, the Spatial Plan of Montenegro, the Millennium Developmental Aims, and Regional Development Strategy. Documents related to tourism development also have an important influence on agriculture (Master Plan of Tourism Development and Strategy of Tourism Development in the Northern Region of Montenegro).

More detailed guidelines for the development of agriculture can be found in the: Economic Reforms Agenda (2003 and 2005) and Strategy of Development and Poverty Reduction (2003).

The common characteristic of these documents is that they place the development of agriculture among the first priorities of general economic development of Montenegro. The Economic Reforms Agenda and the Strategy of Development and Poverty Reduction make a strong case for the need for considerably higher budgetary support to that development. The documents clearly show the need to make a new definition of agricultural development and are already defining a part of the process of reforms in agricultural policy. This is the reason why elements of these two documents are given in more detail.

***Economic Reforms Agenda***

The Agenda is the basic document for the Government's current policy and it clearly sets the obligations regarding the European integration processes. In the field of agriculture, the Agenda lays down the following tasks:

- Gradual harmonisation of national laws with the legal system in EU, adjustment of the domestic agricultural policy with principles of the EU Common Agricultural Policy;
- To reform the institutions in agriculture for the purpose of efficient implementation of the new legislation and principles of the EU Common Agricultural Policy;
- To provide mechanisms for providing credits to agriculture;
- To develop the capacities for the production of high-quality (ecological) food for export and consumption in the domestic market,
- To develop cooperation with the tourism sector in compliance with the principles of the ecological state.

The Agenda sets the abovementioned developmental aims in agriculture, underlining the importance of production in the private sector as the main developmental priority and of the family business as the optimum model for the development of agriculture in Montenegro. The Agenda includes six concrete initiatives, as follows:

- A new definition of policy support with the following long-term priorities: to strengthen the market capacity and position of Montenegrin products, to improve the rural infrastructure, to strengthen expert services and inspectorates, to provide social security of farmers through old-age allowances and young farmer program, to provide support to exports. Under this initiative, the Strategy of association of Montenegrin agriculture and rural development with the EU shall be developed and budgetary support to agriculture increased – more financial resources should be earmarked for incentives to agricultural development and that support shall be in compliance with WTO principles.
- Redefinition of market and price policy aimed at strengthening the competitiveness of domestic producers, consistent implementation of the Law on foreign trade, including the implementation of instruments for the elimination of unfair competition; review of customs tariffs in line with the twin track approach in preparations for negotiations on association with the EU and in the separate association of Montenegro to the WTO.
- Reforms in credit policy implies moving credit granting activities from the Ministry to banks and credit institutions, with an active role of the Ministry in setting strategic directions and proper placing of funds from revolving funds of donations. It is recommended that acceptable models for providing credits in agriculture should be defined, as well as the role of the Government in this sensitive segment of agricultural development, taking the practice of new EU members as an example.
- Institutional development in agriculture (inspectorates and expert services) through continued activities in modernization of veterinary and agricultural inspectorates, training of inspectors, construction and equipping of laboratories. The second important segment is the further strengthening of expert services in agriculture (Extension service in plant production and Livestock Breeding Service), without which agriculture cannot be developed quickly.
- Definition and establishing of the quality standards policy, internationally recognized certification and labelling of agricultural products. More intensive activities in the introduction of international standards, primarily ISO, HACCP, standards and certificates in organic farming, certificate on geographic indication protection (PDO, PGI, TSG) etc. Special emphasis is placed on the promotion of organic farming and connecting it with tourism.
- Statistical support to agricultural development. Implementation of a prudent agricultural policy and implementation of support measures in agriculture requires the availability of adequate data on agriculture and food production in general, exports and imports. Development of a registry of all agricultural producers is recommended as well as the implementation of an animal identification and registration system – introduction of the meat traceability system; setting of a cadastre of permanent crops (vineyards, olive groves etc.) and implementation of a system for collecting and analysing of market information in agriculture.

***Strategy for Development and Poverty Reduction***

The Strategy was adopted by the Government in November 2003 in order to apply to international financial organizations for funding. The Strategy is complementary with the Economic Reforms Agenda.

Strategy objectives are:

- To meet preconditions for self-sustainable and balanced economic development that shall reduce the size of the economically vulnerable population,
- To ensure social stability and reduce poverty,
- To define key indicators of poverty, in line with the Millennium development objectives and to follow them through an integrated system of monitoring and evaluation during the Strategy implementation period.

The achievement of the abovementioned objectives envisages, among other things, the following: establishing of a stable macroeconomic environment, dynamic economic growth, harmonisation of legislation and processes with the EU, valorisation of Montenegro's potentials, particularly in the sectors that are comparative advantages of Montenegro, environmental protection with mechanisms for lasting ecological protection.

Objectives set in agriculture are identical to those in the Economic Reforms Agenda. The first five concrete initiatives have been taken from the Agenda and are supplemented with a sixth one which refers to the modernization of existing and establishment of new processing facilities. The development of modern processing facilities throughout Montenegro would be a strong impetus to agriculture with under-utilised resources. At the same time, the sector of food production would employ a significant number of qualified labours, which would result in a greater amount of final products on markets.

The chapter of the Strategy that presents concrete expenditures includes almost all the programs funded from the current agricultural budget, but the amounts needed for their implementation are significantly higher than those included in the current programs of the agricultural budget.

## 1.2 Strategy dilemmas – possibilities for implementation of agricultural policy concepts

### 1.2.1 Possible policy concepts

Generally taken, there are three main approaches or concepts of agricultural policy:

- ***Protectionist concept,*** *which implies the highest possible market protection and executing the policy through high price support;*
- ***Liberal concept -*** *where agricultural development is left to free market principles;*
- ***Concept of sustainable agriculture*** *which starts from the multifunctional role of agriculture, with special emphasis placed on rural development, and with a moderate and flexible protection system as a stabilizer of oscillations in supply and prices.*

***Protectionist concept***

According to this concept, agricultural developmental problems are resolved by high food prices. The primary objective is to increase production and resolve the income problem in agriculture with price support. This concept implies high protection through *ad valorem* customs tariffs and *customs levies* (import taxes in the form of value per product unit). Tariff protection in that case is so high that imports can be controlled through import quotas, when protection is somewhat lower and lets in the volume of products necessary for maintenance of the higher price level and favouring domestic production. In case a country is a net importer of food, that concept can be budgetary neutral, or it might even fill the budget of the government. Of course, the situation is different if the state is a net exporter of food, since in that case, this concept is very expensive. The strong budget is, to a greatest extent, focused on market price policy. With the whole set of measures, through interventions on the domestic market and export subsidies in the foreign market, the state pays the significant

costs of the high price level. Various direct payments can exist within this concept, which provide additional support to production and income. Their form can vary from input subsidizing to direct payments per ha or per head.

The effects of this concept are quite noticeable, causing a significant increase in production and productivity growth and as a result, achieving an adequate income, particularly in households that embark on concentration, specialization and intensification of production. This concept, although based on strong support to agriculture, does not stop structural changes. Agriculture moves from areas with more difficult conditions to areas with lower costs. The support is not enough to maintain small producers in mountainous regions. On the other hand, increased intensification can result in negative effects on the environment (water, soil), food is expensive and price support affects the price of inputs and land in particular.

*Table B.1: Overview of possible scenarios of agricultural policy*

| Concept / Characteristics | Measures | Results expected |
|---|---|---|
| **Protectionist**<br>- Agriculture as target of support,<br>- Production is increased and income is supported by all measures available | - High tariff protection,<br>- Price support to production,<br>- Interventions on the internal market,<br>- Various forms of direct payments to producers | - High costs (particularly in countries net exporters of food) with financing of market surplus,<br>- High food price – burden to consumers,<br>- Low competitiveness of producers,<br>- Negative effect on environment (pollution as a result of industrialization of agriculture) |
| **Liberal:**<br>- liberal market,<br>- commercial agriculture only in high quality soil, high intensity | - free import,<br>- free price formations,<br>- no support to production, not even support that does not have a negative impact on the market | - reduction of production volume,<br>- accelerated migration from rural areas, particularly in less favourable areas,<br>- relatively cheap products on the market,<br>- high dependence on imports |
| **Concept of sustainable agriculture**<br>- multifunctional agriculture,<br>- increase in production to the level of optimal utilization of agricultural land,<br>- moderate intensity,<br>- rural development,<br>- environmental protection,<br>- food security | - balanced developmental role of the state,<br>- direct payments not related to production,<br>- measures for market stabilization,<br>- integrated policy for food production chain,<br>- great importance of rural development policy | - more opportunities for incentives to balanced economic development of food production,<br>- more balanced regional and rural development,<br>- more sustainable development of rural areas and agriculture,<br>- increased ecological orientation possible,<br>- more opportunities for solving developmental problems,<br>- requires analysis of effects that depend on elaboration of measures and funds,<br>- High budgetary expenditures. |

***Liberal concept***

This concept is the opposite of the previous one. In fact, this stylized concept can recognize structural deficits and other problems that agriculture faces in modern society. The advocates of this, at first glance a theoretically stronger concept than the previous one, constantly maintain that the state is a poor master and that it cannot provide a proper solution to all the problems. Thus, only the free market can result in better situation at lowest costs. The free market favours the most capable and the most competitive food producers that can develop faster, because all the others chose other business activities. Areas where competitive production is not possible shall be emptied and would revert to their natural condition, which is much better for both society and that population, which can be engaged in something more efficient. All budgetary support to agriculture, with the exception of some public services (science, education, food safety) is wasted money, since it could be better used for some other purposes.

The effects of this concept, theoretically substantiated by elementary textbook stances of the theory of economy, vary and are quite difficult to evaluate. It definitely leads to the establishment of a smaller number of bigger and more efficient holdings on one side, and significantly less utilization of production resources on the other side. At least, that applies to developed countries. In underdeveloped and countries in transition, the

developmental practice so far shows that this concept does not lead in the desired direction. Efficient agriculture is not developed, resources are not efficiently utilized. People continue to work in agriculture, but they live on the edge of poverty and produce in the traditional and inefficient way, or they leave rural areas and live in ghettoes in urban areas. The consumer would have access to cheaper food and in that case, the state would spend its foreign exchange on food import, which has an adverse effect on macroeconomic stability.

The standpoints of this concept are supported by fundamental theory axioms and critics of every agricultural policy in developed countries. The concept is just partly theoretically correct. Modern theory of economy and some applied theories (environmental economics, developmental economics, and agricultural economics) show that developmental issues cannot be solved only by market mechanisms, since it does not necessarily lead to the desired results. It does not necessarily result in improved competitiveness and efficiency of the whole national economy and some of its branches in particular.

***Concept of sustainable agriculture***

Lately, there has been an intensive theoretical and practical development of the concept of valorisation of additional (external) effects of economic activities, particularly the public resources that the market cannot regulate and produce sufficiently according to the public wishes. The modern concepts of agricultural policy use also these arguments to argue for the increased role of the state in the development of agriculture. It is not contrary to the principles of international organizations such as OECD, the World Bank and others. There are many declarations and theoretical concepts (developmental economics and recommendations of the UN organisation FAO) which underline the active role of the state in the sustainable development of agriculture and rural areas in countries that have not yet reached an adequate developmental level.

Such an approach places agriculture into a significantly wider context than its importance measured only by its share in total GDP. The starting point in this concept is the **multyfunctionality** of agriculture in the development of a country, and particularly its effects on rural development (economic, environmental, spatial and social dimension). Modern approaches in agricultural policy are based on that, particularly in the European Union which began developing objectives and measures to that end, with all the difficulties resulting from mistakes of earlier policy mainly relied on the protectionist concept. It means that none of the characteristics mentioned, which give agriculture the character of a multifunctional sector, can be neglected – all of them have to be taken into consideration and developed at the same time. The component of **rural development** has a special place in this concept. This concept also means the end of a one-way sector approach and gradual transformation of agricultural into rural policy. Some theoretical grounds for this concept exist in the theory of development economics based on a pronounced developmental function of the state, particularly at the level when private initiative becomes capable of leading development and keep going under the increasingly difficult conditions of competition.

The effects of this concept are not as unidirectional and positive as might be expected. In fact, the carrying out of this concept depends much on the quality of measures, funds and the condition of agriculture and rural areas (level of competitiveness and resources condition). This concept does not deny market principles. On the contrary, it is based on private initiative and economic principles. The difference is that the state is trying to support the development of economy and the market, through establishing of an efficient market structure and competitive producers. Moreover, efforts are made to regulate and support developmental elements, such as sustainable development and balanced regional development. To this end, a modern state of law with transparent mechanisms and processes needs to be developed.

### 1.2.2 Why is the concept of sustainable agriculture potentially the best solution?

Which of the three theoretic concepts could be applied in Montenegro? To some extent the *protectionist* concept existed before and in the early period of transition and it had been thoroughly implemented by the European Union before the CAP reforms in the 1990s. Montenegro has already abandoned the concept through abolishing import quotas, changes in customs tariffs and modifications in support policy (more funds for rural development measures and services in agriculture at the expense of subsidies for certain products), so it is almost impossible to go back to the earlier practice without serious consequences to the

process of association with the WTO and negotiations on Stabilization and Association Agreement with the EU. It should be mentioned that this concept would, in the initial phase, be at the very least expensive for a country with the status of a net importer, like Montenegro. At relatively low taxation for consumers, budgetary expenditures could remain relatively low. Even if it were possible to establish a completely protectionist system, such a concept might produce good results in the short term (refer to scenario "Possible Technological Potential" – Document A), but protected and uncompetitive sectors would encounter big difficulties at the first confrontation with serious competition. Although it might have many supporters among producers, this concept is not realistic. In the long term, it would be unproductive and would take Montenegro farther from international integration, and eventually it would do more harm than good to producers.

As a result of specific difficulties in the general economy at the end of 1990s (problem of food imports during difficulties in trade with Serbia), Montenegro had a brief experience of the *liberal concept of agricultural policy*. Food production was exposed to almost complete liberalization as regards protection of domestic production, since customs tariffs, with the exception of a small number of products, were either minimal or there were none (milk and dairy products, meat and processed meat products). As a result of strong pressure of cheap imported products negative effects on agriculture production and purchase had occurred. Some of the import had a dumping character, since it had been supported by strong incentives and export subsidies. Unilateral opening did not place food production in Montenegro in an equal competitive position. That is why additional measures and incentives were introduced and Montenegrin agricultural policy began moving away from the fully liberal concept.

No comprehensive research is necessary in order to establish whether long-term implementation of the fully liberal concept would result in significant difficulties for a major part of the current agricultural production, particularly for vast rural areas. The end result of this concept would be a handful of smaller competitive producers that produce under the best production conditions and in a very small area. Commercial production would develop with difficulties; a significant part of it would close within a relatively short period of time. In remote areas, which make up most of the area of the country, agriculture would practically be reduced to the level of subsistence production – production solely for the needs of members of a household. The possible state in individual sectors under these conditions is illustrated by "pessimistic scenario" of development (refer to Document A), under which usage of resources and volume of agricultural production would significantly decrease. Without measures supporting general rural development and development of other industries, too, it is clear that migration and the abandoning of rural areas would take place; poverty would increase as well as underutilization of food production resources for the needs of the development of tourism and other activities in rural regions. The liberal concept of agricultural policy does not solve the problems of rural areas in Montenegro; that is why it is misleading and harmful.

If neither protectionist nor liberal concept give answers to an efficient and long term solution to major problems, is there a „third way" – a policy concept that would turn the negative trends to positive and bring prosperity to rural areas? Both theoretically and practically, solutions that might provide answers to that question are offered by the third, the concept of sustainable development of agriculture. In fact, this concept is the clear alternative if Montenegro is determined to actively solve the piled up problems related to rural areas, agriculture and the environment. It is a logical sequel of sustainable development that has already been defined in the strategic documents (Economic Reforms Agenda, Strategy of Development and Poverty Reduction, Master Plan of Tourism Development). Such a concept, built on the positive experiences of the European Union, provides, to the fullest extent, more rapid adjustment and integration into European processes, and since it introduces a modern concept of agricultural policy, it is not disputable from the viewpoint of association with the WTO. With the concept of sustainable development the mistakes of over-industrialization and over-intensification in the sector could be avoided to some extent. Montenegro's agricultural potential would be realized to much greater extent and possibly reach the level that stems from "optimistic scenario" of agricultural development (refer to Document A).

# 2 AGRICULTURAL POLICY CONCEPT OF SUSTAINABLE AGRICULTURE – OBJECTIVES AND PILLARS OF THE REFORM

## 2.1 Principles and Aims of reforms

### 2.1.1 Strategy principles

The concept of the sustainable development of agriculture is a logical and conceptual elaboration of decisions already made as regards the development of the state and economy of Montenegro. Its primary objective is to define the role of agriculture in the development of a country and modernization of the state administration for the purpose of the implementation of the strategic commitment of sustainable development and integration of Montenegro into the international community. The concept is reasonable only if the widest possible consensus regarding its adoption is achieved.

The Strategy of agricultural policy takes on the European model of agriculture. The setting of the main and operational objectives in sustainable development of agriculture starts from:

- commitment that Montenegro, as an ecological and tourist country, is to build the concept of sustainable development;
- achieved level of economic and social development of Montenegro;
- the fact that agriculture and the food processing industry make up an inseparable entity;
- the premise that agriculture is the basis for the development of the rural economy;
- the need to join regional, European and international integration processes;
- complete acknowledgement of the principle of the multifunctionality of agriculture.

Eco-social and market stems from the multiple role of agriculture – **multifunctionality,** which in Montenegro, reflects in the following:

- ***Function of sustainable rural development:***
  - Investing into agriculture also means investing into rural development, since without agriculture it is not possible to protect rural areas from depopulation. It particularly refers to Montenegro, taking into account the natural and other conditions for agriculture.
  - Development of sustainable agriculture enables the balancing of differences in the development of specific areas.

- ***Environmental function:***
  - Optimal and sustainable management of agricultural land, as an irretrievable natural resource is a guarantee of the preservation of the potential of the development of the environment in the fullest sense;
  - Spatial management and creating the desired landscape.

- ***Economic function:***
  - Food production is an economic activity where economic principles applied are the same as in other activities. The concept of sustainable agriculture does not deny the economic function, but supplements it.
  - Agriculture is the main or additional source of income for more than 60,000 households in Montenegro;
  - Agriculture is the basis for the development of the food industry and supports the development of many other sectors (production of inputs, equipment, mechanisation, packaging, transportation, many services, etc.).
  - Significant new value added can be generated by the utilization of large areas of available meadows and pastures that are currently underutilized.

- ***Support function for tourism development:***
  - The joint development of agriculture and tourism is of particular importance for Montenegro. A wide range of high quality domestic products enriches the tourism offer. Through affirmation of the national cuisine and specific products of Montenegro tourism can be a powerful generator in the development of agriculture;
  - Agriculture offers opportunities for recreation, holidays and the development of specific sporting activities.

- ***Social function:***
  - Agriculture and related activities provide employment to a significant share of the population, which reduces the pressure on jobs in other sectors;
  - Opportunity to produce food on one's own holding reduces social tensions;
  - Development of agriculture also contributes to the struggle against poverty in rural areas.

- ***Food security function:***
  - Security in providing food of standard quality and at a reasonable price for consumers is in the strategic interest of all countries.

- ***National-cultural function:***
  - Multifunctionality also implies carrying on the tradition and cultural heritage in rural areas.

### 2.1.2 Main objectives

The achievement of the main objectives of the sustainable agriculture concept of agricultural policy makes possible the solving of developmental, structural and general problems of rural and agricultural development:

1. **Management of resources in a manner sustainable in the long term, together with promotion of agriculture that is, to the greatest extent, harmonised with environmental protection (sustainable resource management);**
2. **Ensuring stable and acceptable supply of food in terms of quality and price (food safety);**
3. **Ensuring an adequate standard of living for the rural population and a comprehensive rural development together with the preservation of traditional values of rural areas (adequate standard of living and rural development);**
4. **Lasting increase in competitiveness of food producers in the local and foreign market (increase in competitiveness).**

The developmental objectives set are completely equal, so there is no hierarchy as regards their importance. Sustainable development imposes the need to manage resources in the manner that is, to the maximum degree, coordinated with environmental protection. Since rural areas make up most of Montenegro, it is clear that the objective can be reached only by implementation of an integrated and prudent rural development policy. Moreover, a good rural development policy shall induce the population to stay in the rural areas and, in the long term, to turn the process around and instead of migration village-city, a significant number of the urban population would chose rural areas for their place of residence.

Food safety and competitiveness must develop in full harmony, without any contradictions between the two objectives. All the measures for improving competitiveness must always take into account food safety and neither of them can be allowed to sacrifice the quality for any other objectives. Taking into account the specific characteristics of agriculture in Montenegro quality, in the fullest sense, should be the basis for competitiveness in both the domestic and foreign market.

A balanced implementation of these four objectives would lead to the fifth, general **objective: to ensure the food security of the population**. Meeting this objective is what the agricultural policy of all countries aim for, especially developing countries.

### 2.1.3 Operative objectives

Operative objectives are the elaboration of the main objectives. They are required for easier understanding of the concept and definition of measures.

1. Management of resources in a long term sustainable manner, together with the promotion of agriculture harmonised with environmental protection to the greatest extent.
   - Incorporation of environmental protection principles into the technological development of agriculture and the food processing industry,
   - Protection of soil as a production and ecological resource, prevention of erosion, pollution and other forms of degradation,
   - Protection of water resources from possible pollution,
   - Prevention of risks to biodiversity in general,
   - Protection and prevention of loss of agro-biodiversity – genetic resources in plant and livestock production,
   - Maintenance of the landscape in its esthetical function and in the function of tourism development,
   - Valorisation of preserved land resources through stronger development of organic agriculture,
   - Preservation of traditional and sustainable production technologies,
   - Giving priority to programs harmonised with environmental protection.

2. Ensuring **stable and acceptable supply of food** in terms of quality and price.
   - Improving the quality and health suitability of food and establishing the support system,
   - Implementation of international standards in food production, including the standardization of autochthonous technologies,
   - Modernisation of agriculture for the purpose of improving product quality,
   - Introduction of the traceability system – food security monitoring 'from farm to fork',
   - Building and continuous development of the general food security system,
   - Promotion of specific characteristics and features of food production in Montenegro (high-value, specific products, products with protected geographical indication, organic farming products etc.),
   - Minimising the risks from GMO.

3. Ensuring **adequate standard of living for the rural population** and comprehensive rural development together with the preservation of traditional values in rural areas:
   - Ensuring adequate living conditions in rural areas together with support to economic and social activities aimed at keeping the population in rural areas,
   - Balancing of regional development,
   - Development of areas with unfavourable conditions for economic activities,
   - Development of rural infrastructure in the broadest sense,
   - Diversification of economic activities and income in rural regions, with special emphasis on different forms of tourism,
   - Support to self-employment in holdings,
   - Coordination of the rural development policy with educational policy in order to provide adequate education conditions for children in rural areas,
   - Protection and preservation of cultural heritage in rural areas,

- Ensuring the affirmation of diversity (national, religious, cultural, social, etc.) in rural areas,
- Protection and affirmation of women's rights in rural areas (rural gender issue).

4. Lasting **increase in competitiveness** of food producers in the local and foreign market:
   - Increase in size of family holdings with commercial production and concurrent prevention of further fragmentation
   - Higher flexibility and dynamism of the agricultural land market,
   - Efficient land improvement operation, including land consolidation, irrigation and amelioration,
   - Better technical equipment in agriculture,
   - Better efficiency in input supply,
   - Development of the financial market and providing better access to credit funds for agricultural producers, including the new forms of credits (such as leasing) for beneficiaries with a lower credit capacity,
   - Accelerating the new investment cycle in agricultural holdings,
   - Professional training and education of agricultural producers,
   - Improvement of the age structure of agricultural producers by supporting young people to engage in agriculture and, at the same time, earlier retirement of old farmers,
   - Better producer organisation in agriculture (cooperatives and other forms) in order to eliminate the lack of the economies of scale and increase competitiveness,
   - Development of the agricultural market infrastructure, including provision of the conditions for establishing agricultural stock exchange and registering purchasers of agro-food products,
   - Strengthening of the vertical integration in the agro-food sector, including retailing,
   - Horizontal integration in the food processing industry,
   - Modernization of technology, specializing and increasing the utilization of the available capacity in the food processing industry,
   - Accelerating investments in processing capacity and distribution channels,
   - Attracting foreign capital into the food production sector,
   - Strengthening of the marketing function of the whole chain of food production as an incentive to buy and consume agricultural products,
   - Training of management and development of human resources in the whole food production chain.

The achievement of the operative objectives should have strong **institutional support** through:

- Harmonisation of legislation with international standards,
- Improved activities of inspectorates and expert services,
- Improvement of research and adjusting the activities of research institutions to the developmental needs of agriculture in Montenegro,
- Harmonisation of educational programs with the true needs of agricultural development,
- Support to various forms of producer organizations at the local, regional and national level.

## 2.2 Pillars of the Reform

### 2.2.1 Reform of agricultural policy

***Market-price policy***

Montenegro has started the international integration processes with the preparation for membership of the WTO and accession with the EU. Both processes will largely influence not only foreign trade, but the development of agriculture as well. These processes, along with signing bilateral contracts, will inevitably lead to the further liberalization of trade and stronger competitiveness in the market. This is the reason why increase in price competitiveness of domestic products which is currently at a low level is becoming one of the most important challenges.

In spite of expected further trade liberalization, import protection will remain an important instrument of market-price policy also in the future. The main aim of the market-price policy is to stabilize the level of prices and to provide fair competitive conditions in the domestic market. In this regard, it is necessary to implement new measures for the stabilization of the market in case of higher distortions which are not opposed to WTO principles (safe-guard and safety-net measures).

In order to raise competitiveness and take over the CAP model of market-price policy, a significant role must be given to direct payments. It is necessary to provide stable support to producers for encouraging agricultural production in order to keep the natural resources in function and to adjust the measures to the support system of the EU. With the reform of the current and the introduction of new incentives, budgetary support will be operated through:

- Direct payments per ha in crop production;
- Direct payments per head in livestock production - for cattle (suckler cows, fattened cattle and slaughtering payments), sheep and goats.

The amount of the direct payments will depend entirely on the level of prices in the domestic market that must be gradually balanced with the level of prices in the EU.

***Rural Development Policy***

In the concept of the sustainable development of agriculture, Montenegro has decided to implement, the most important elements is rural development policy. Montenegro, while implementing reforms in agricultural policy, has started to turn direct support from production or individual products to rural population. In parallel with budgetary support, donor support was also directed the same way. It is necessary to continue with support to the development of rural areas in the following period and to increase the investments in the most important programs that will be harmonized with EU principles.

The policy must be based on the three most important axes of rural development:

- increase competitiveness through different methods of support to primary agriculture and food processing industry;
- better management of natural resources;
- creating conditions (along with the other programs of the Government of Montenegro) to raise the living standard of the rural population and to extend economic activities in rural areas.

***General and public services in agriculture***

Montenegro has institutions responsible for providing public services in agriculture in the domain of technological development and food safety. The reforms of these institutions are underway, but the capacity and quality of work of these institutions is still inadequate to respond to the needs of faster development and requirements of the EU accession process. It is necessary to establish an efficient system of public services, build a system of financing public services through tenders, programs and program monitoring, and the technological and general development of agriculture should be supported through the gradual strengthening of financial support to:

- Extension services in agriculture (Extension service in plant production and Livestock Breeding Service),

- Institutional food safety system (including veterinary and phytosanitary measures),
- Research and scientific work results of which would provide the basis for the implementation of a developmental policy in agriculture,
- Analytical and strategic activities for the purpose of agricultural policy (producing plans, control and evaluation of effects of agricultural policy measures applied),
- Vocational training of agricultural producers.

***Taxation and social policy***

Since April 2003, Montenegro has been implementing a single VAT rate of 17%, and from the end of 2005 lower VAT rate (7%) for basic agricultural products (milk, brad, oil and sugar) and inputs for production (fertilizers, pesticides, fodder, seed, breeding cattle). Taxation policy should assist the realization of the fourth objective in agriculture development – an increase in the level of competitiveness, through:

- Introduction of a lower tax rate for all food, feed, seed and planting material, breeding animals, fertilizers, etc., as neighbouring countries do (Serbia, Slovenia, and Macedonia) as well as most of EU countries.
- VAT can be calculated for agricultural producers too, by providing a system of monitoring activities in agricultural production through an adequate form of registration and bookkeeping.

Programs of measures of the Ministry of Agriculture include significant support of a social character. The Young Farmers' Program provides superannuation insurance for agricultural producers and the Old Age Allowance Program provides social security of the rural population. The aim of the reform of the policy is to ensure the implementation of a social policy that shall lead to the realization of the third objective of agricultural development: provision of a fair standard of living for the rural population. This could be achieved through the integration of social policy for the rural population into general social policy. It is also necessary to ensure continuance of the current old-age allowance program, and in line with general social policy reforms, the transfer of this program to the competence of the Ministry of Labour and Social Welfare.

### 2.2.2 Legislation reform

The implementation of the developmental objectives stated above and the new agricultural policy impose the need for the continuance and acceleration of reforms in legislation. The basis for harmonisation shall be the EU *Acquis communitaire* and the continued training of the administration for the implementation of this very demanding task.

Adoption of a number of key laws shall play a critical role and the most important include:

- Law on agriculture and rural development
- Law on agricultural land
- Law on food safety
- Law on livestock breeding
- Law on animal feed
- Law on cooperatives

A more detailed elaboration of the laws stated above, appropriate bylaws and time schedule for development thereof shall follow in the document that should stem from the Strategy.

### 2.2.3 Reforms of institutions

Reforms of agricultural policy and the process of accession with the EU impose the need for the reorganization of the Ministry itself. The old way of implementing agricultural policy is being changed. Staff in the Ministry should not substitute the work of expert services in the field. All commercial activities are definitely moved from the Ministry, banks are in charge of crediting, various business entities are in charge of procurement of various inputs, etc. Thus, the name The Ministry of Agriculture and Rural Development would go

better with the European model of sustainable agriculture and the Ministry's role in it than the current one. Reorganization of the Ministry must be the result of reform of agricultural policy and directed towards adjustment to EU requirements. The most important steps in this regard are formation of departments for rural development, for administrative-information systems, as well as taking over the role of the paying agency which will be in charge of the implementation of the donor policy of the EU.

Reforms are needed in other institutions in agriculture too:

- Expert services in agriculture and food safety;
- Research and education;
- Associations and other organisations in agriculture and agro-industry;
- Statistics.

In the process of establishing new institutions, two very important principles should be abided by:

- Gradualism – it is not good practice to make haste in the formal establishing of institutions, without having a clear vision of the need for establishing them, and without setting the basic preconditions and preparations of the future administration. Institutional changes must stem from reforms in agricultural policy, not in reverse.
- New institutions have to be sustainable in the long term, and match the size of the agricultural sector and economic power of Montenegro. Taking into account the limited human resources, it is particularly important to prevent any doubling of institutions.

Detailed elaboration of the plan of reforms in institutions shall be the subject matter of a document that shall stem from the Strategy, which should be an internal document of the Ministry.

### 2.2.4 Framework for budgetary planning

Realization of the objectives of development of agriculture through this Strategy requires stronger budgetary support. Even if agricultural policy were not changed or coordinated with the principles of the EU Common Agricultural Policy, the increase in budgetary funds for agriculture would be inevitable for the following reasons:

- The carrying out of programs defined by the governmental documents, in particular Economic Reforms Agenda and the Strategy of Development and Poverty Reduction;
- The number of beneficiaries of budgetary funds is increasing year by year – as a result of establishing new laboratories, development of expert services, etc...

Production in some sectors is increasing (higher yield in plant production, increase in livestock population for developmental premiums) so that at the same level of payment per unit the total amount of support will inevitably increase.

The presumed period of time before full membership in the EU has to be used not only for the reforms proposed, but also for the rapid development of domestic agricultural production as well. The practice of Slovenia and other acceding countries show that the preparatory period has to be used for strengthening agriculture, so that, following the accession, it could be competitive in a much larger market. At the same time, the model of policy support that has been well worked out shall enable earlier access to European funds for agriculture and rural development, and, what are very important, efficient negotiations and use of funds after membership is gained. Experiences of the latest EU enlargement clearly show that the level of support from these funds depends on the condition of agricultural resources, the preparedness of the state administration for implementation of the measures and on the ability of all participants to undertake them. Success also depends on earlier support from the national budget and properly used funds provided by donors.

The Agricultural development strategy has to include elaboration of the financial framework of the budget, too. An indicative list of measures and financial resources for implementation of the measures should be drawn up. That financial framework should pool domestic and donor funds. It is understandable that national funds are not sufficient for covering the implementation of objectives of a sustainable agriculture model of agricultural policy.

The necessary measures and instruments for realisation of the aims and pillars of the reform of agricultural policy, as well as the financial means and term plans are the subject matter of document C "Concept of agricultural policy measures and budgetary plan 2007-2013"

# 3 CONCLUDING REMARKS

This document did not have the ambition to offer ready-made solutions - its objective was to be a 'crossroads' from which several directions of reforms should be taken. In each of these directions there should be an even more elaborated document – a new reminder with the list of new questions and indications for resolving them. Therefore, the intention is not to close the book of the necessary reforms, but to open it.

As can be seen, the document has not been written in the form of instructions about what and how agricultural producers should produce. It is written, first of all, for the state, as instructions to further implementation of reforms in agriculture. Agricultural producers, the processing industry and potential entrepreneurs should recognize the messages sent to them through such an orientation.

Apart from the methodological approach, the document offered is quite different from strategic documents of other countries in our region in the following: a) transformation of the former "social" sector takes an important place in other strategic documents, while here that issue has not been elaborated; b) how can specific instruments of agricultural policy (subsidizing of production inputs, enormous tariff protection, export subsidies, etc.) be changed or abolished for the purpose of further liberalization required by membership in the WTO and association in the European integration process, which is not the case in Montenegro, since some of these instruments it does not apply at all.

All this shows that there are no ready-made solutions, nor can models of others just be copied and pasted – the policy has to adjust to the real situation in food production and objectives of its future development that are clearly set.

However, low competitiveness in production in a fragmented farm structure and under unfavourable natural conditions, low modernization level, pronounced problem of migration from rural to urban areas, as well as other constraints clearly show that Montenegrin agriculture, too, needs as good a management (financial and multiple institutional support) as in the other countries it trades with.

Further more, in future negotiations on the Stabilization and Association Agreement, agriculture cannot be considered statically, i.e., from the viewpoint of current production volume and development level achieved – the projection of development to a truly attainable level should be borne in mind.

The development and adjustment of Montenegro's agriculture does not depend solely on the financial support of the state. The necessary changes require the following:

- Development of the market and competitiveness of the whole food production chain, including retailing, where the state can provide a significant contribution through the systemic development of market infrastructure and financial structural support.
- New technological development in agriculture and the food processing industry, adjusted with Montenegrin tradition and conditions, but also with the requirements of a modern economy. Direct taking (copying) of other country models in technology and organization without taking into account the mentality and historical experiences cannot produce good results.
- Establishing transparent procedures and systems for implementation of the new agricultural policy that shall contribute to the development of a modern state of law.

This document is an attempt to open a new direction in the development of Montenegro's agriculture and rural areas. The adoption of European standards and the role of agriculture and rural development open a new, long term prospect for young people who begin to work, in a country that has the conditions, but is not yet using them in optimally. On the basis of tradition and the new role of agriculture and its connection with other activities and tourism in particular, the prosperity and standard of living of a proud and diligent people can be improved. It is a great challenge to producers, organizations and institutions in the sector of agriculture, as well as to the state of Montenegro.

# MONTENEGRO'S AGRICULTURE AND EUROPEAN UNION
# Agriculture and Rural Development Strategy

Document C

**CONCEPT OF AGRICULTURAL POLICY MEASURES AND BUDGETARY PLAN 2007-2013**

# 1 INTRODUCTORY REMARKS

## 1.1 Agricultural policy frame and assumptions

The main aim in the elaboration of the Strategy, as stated in the document "Platform, Objectives and Pillars of the Reform", was to conduct the reform of agricultural policy, legislation and institutions in agriculture. This document represents a logical sequel of the previous two Strategy documents. The objective of the document C is to make operative plan of agricultural policy measures in regard of:

- Adjustment to the CAP principles;
- Budgetary support.

***CAP as a moving target***

In the previous document, the need to take on the European model of agriculture was elaborated in detail. It was also stated that for the new members CAP is a moving target and that it is not reasonable just to copy the past or actual CAP solutions.

One of the final tasks in the Strategy is the selection of support measures and budget needed for their implementation for the period 2007-2013. Bearing in mind the specificity of CAP: the scope and intensity of measures and legislative that defines them, decision-making mechanisms, as well as the implementation rules and procedures, it is necessary to embed the most actual principles and regulations of the CAP, but at the same time to bear in mind the real needs and developmental requirements of the Montenegrin agriculture. Therefore, proposed Strategy agricultural policy instruments will to reasonable extent rely on the last CAP reforms implemented in the EU. This applies to rural development policy above all, as the most modern segment of agricultural policy directly based on the concept of sustainable agriculture.

***Draft of the budget as a guideline for future policy***

In further chapters the main measures are elaborated along with the estimated budgetary outlines. These projections should be a guideline for annual implementation and execution of Strategy, while the real economic situation and the political framework of the integration processes will impose the need to adjust the content and scope of measures.

The framework of support and the projections of the budget are based on:

- Strategic commitments defined in the document B;
- Analysis of actual agricultural policy and agro-budget for 2006;
- Scenario analysis and expert estimates on the trends of key agricultural products from the document A;
- Current state of negotiations within the Agreement on Stabilization and Accession to the EU, as well as negotiations on joining the WTO;
- Estimates of potential pre-accession and accession support of the EU, as well as dynamics and tactics of the adjustments of domestic agricultural policy with CAP principles.

The implementation of the document "Platform, Objectives and Pillars of the Reform", denotes decision of Montenegro to apply the concept of the sustainable agriculture as future policy, where multifunctional agriculture represents a basic standpoint. Developmental aims might be achieved through the chosen concept and proposed reform pillars, but the level of their achievement and the establishment of long-term sustainable agriculture will depend mainly on the frame and size of the budgetary support in the forthcoming transition period.

Current agricultural policy and related budget are characterized by reorientation of support from a small number of social companies (combinats) to all beneficiaries within the sector that qualify for support, that way providing incentive to family farms. Financial support to institutions in agriculture, besides some oscillations in the size of the budget is increasing. The budget for agriculture support was influenced by the significant international donations, which was mostly directed towards institutions, the modernization of agricultural holdings and processing industry and assistance to producer organizations.

Scenario analysis on production trends and prospective developments, stemming from the first document of the Strategy, indicates that in a stable surrounding it is possible to achieve major increases in production in almost all of the agricultural activities. In some sectors, in the frame of an optimistic scenario, it is expected that production will double in the analyzed period. In addition, within those sectors where no significant increase in the volume of production is expected, like milk, for example, dynamic structural changes will happen, that will entail faster development of commercial production and improvement in technology.

The Agreement on Stabilization and Accession will define trade liberalization between Montenegro and EU-25. The way intern concessions are given, will influence the future development of agriculture, and experiences of the countries that are already members of the EU show that with liberalization it is necessary to raise the level of budgetary support to sensitive sectors, especially those which are closely related to the multifunctional character of agriculture, and have low competitiveness due to unfavourable structural characteristics.

The nearing of Montenegro to WTO may influence the development of several sectors through dynamics of trade liberalization with WTO members; and through the obligation to adjust measures with WTO principles. The signing of new bilateral agreements and initiative within CEFTA will guide the future frame of trade with agricultural products between Montenegro and its most important trade partners.

## 1.2 Estimate of future EU donations

### 1.2.1 Estimate of potential pre-accession support

One of the first steps in the planning procedure is to estimate the pre-accession and accession support generated from two basic CAP pillars: Common market organisations and the rural development policy.

Pre-accession support is calculated on the basis of SAPARD support from previous EU enlargement with the following values: share of agriculture in GDP, population number and the agricultural land use.

*Table C.1: Annual support to rural development policy before accession for countries of the last EU enlargement (SAPARD program)*

| State | UAA* 000 ha | Population mil. | SAPARD** mil. € | RDP*** €/ ha | RDP €/ capita |
|---|---|---|---|---|---|
| Check Republic | 3.652 | 10,20 | 23 | 6 | 2 |
| Estonia | 890 | 1,36 | 13 | 14 | 9 |
| Hungary | 5.867 | 10,16 | 40 | 7 | 4 |
| Latvia | 2.480 | 3,47 | 23 | 9 | 7 |
| Litvania | 3.487 | 2,34 | 31 | 9 | 13 |
| Poland | 16.891 | 38,23 | 177 | 10 | 5 |
| Slovakia | 2.240 | 5,38 | 19 | 9 | 4 |
| Slovenia | 508 | 2,00 | 7 | 13 | 3 |
| Rumania | 14.819 | 21,80 | 198 | 13 | 9 |
| Bulgaria | 5.325 | 7,87 | 72 | 13 | 9 |
| CEEC 12 | 56.313 | 103,90 | 603 | 11 | 6 |
| **MN estimate** | **518** | **0,62** | **(4-8) 4** | **(7-15) 7** | **(6-13) 6** |

* UAA - Utilised Agricultural Area
** SAPARD - Rural development policy measures in the pre-accession period on an annual basis, prices 2004.
*** RDP - Rural Development Programs

Based on this criteria and assumptions, pre-accession support to Montenegro could be estimated on values between € 4 up to 8 million a year. It is speculated that for the following EU enlargement, less resources will be at disposal. Related to this a pessimistic assumption for the potential pre-accession support is derived with the proxy of €4 million.

In accordance with the praxis of the EU, pre-accession support could be directed only to the introduction of a rural development policy in the candidate countries. This entails preparation for the multi-annual programming and implementation of complex measures for

increasing competitiveness, the management of natural resources and measures for the rural development in a broader sense. This policy is related to the concept of the sustainable agriculture of Montenegro, therefore is reasonable to promote and to take over the objectives and measures of the EU rural development policy. This policy could help to facilitate existing structural problems in agriculture and in rural areas, as well as the inevitable capacity building for EU support after the accession.

### 1.2.2 Estimate of potential accession support of the EU

In accordance with the Common Agricultural Policy of the EU divided into two basic pillars, accession support is determined with calculations separately carried out for the first pillar (market-price policy based on Common market organisations), and separately for the second pillar (rural development policy).

***Market-price policy***

The following table provides a possible frame of support for the first pillar. According to the actual EU legislation, the total amount of the budget for direct payments for individual candidate countries is estimated according to the statistical data on area and livestock numbers in the main sectors valid for support (some arable crops, cattle, milk, sheep, olive trees, tobacco) and the reference amounts per individual direct payment items according to the CAP policy valid in the period 2000-2004. For new members, as well as for future ones (Bulgaria and Rumania), at the beginning EU is paying a lower level of direct payments (25% during the first year), which is gradually raised over a seven year period to 100%. Direct payments may be supplemented by the national budget.

Reform of the CAP from 2003 and 2004 introduces single farm payments, in the form of the historical right for every individual household, based on the level of direct support from a reference period and defined by payments per ha. Due to the different previous level, this form leads to different payments per ha for individual households. This rule is not applied to new member states. The total amount of payments (national envelope) for them is divided with the total agricultural area, so that they get one unique payment per ha (at the level of about €300 per ha on average at the end of the phasing-in period). It is also possible to keep part of the payment related to production (coupled payment). Member states have chosen different models and schemes of direct payments, so it is hard to talk about unique agricultural policy in that sense.

The newest CAP reform is a mediate solution, and it is expected that it will be modified once again before the accession of the Western Balkans. This implies that it is necessary to be very careful with introduction of the actual CAP, since it really is a moving target with clear tendencies to simplification, decoupling and decrease in the support.

It is practically impossible to determine what the policy would be like and in what way direct payment will be applied to the Western European countries (and Turkey). With every accession this issue is solved differently. It is only possible to give different scenarios. In the current situation, probably the most rational approach is that the volume of support is measured based on the production resources (area and livestock numbers), and a lower rate of payment (25%) taken from the EU budget.

*Table C.2: Estimate on direct payments based on the calculation according to the supported sectors for Montenegro (€ mill.)*

| Sector of payment | 100% EU | 50% EU | 25% EU |
|---|---|---|---|
| Arable crops | 2,3 | 1,2 | 0,6 |
| Tobacco | 1,1 | 0,5 | 0,3 |
| Olive oil | 1,6 | 0,8 | 0,4 |
| Mail bovine animals | 2,1 | 1,1 | 0,5 |
| Suckler cows | 6,0 | 3,0 | 1,5 |
| Sheep and goats | 9,3 | 4,6 | 2,3 |
| Slaughtering premium for calves | 1,3 | 0,6 | 0,3 |
| Slaughtering premiums for adult bovine animals | 3,3 | 1,7 | 0,8 |
| Milk | 6,3 | 3,2 | 1,6 |
| **Total** | **33,3** | **16,6** | **8,3** |

Estimate on the support for the first pillar, market-price policy is related only to direct payments, since it is realistic to expect that in time when Montenegro would be joining the EU, other measures (called market interventions, mainly export subsidies) will probably be of lesser importance for Montenegro, which is a net importer of food.

Due to the specificity of Montenegrin agriculture, the production capacity in sectors for which EU provides support is relatively low. In the first year of accession it is necessary to rely on smaller support stemming from direct payments part of the CAP. According to current legal frame in the EU, around €8 million would be received for Montenegro agriculture under this item, which is a relatively optimistic estimate. This amount would be possible to supplement also with national resources. Amount of €10 million is a realistic scenario for accession period for the first pillar, which would include €2 million of national resources.

It is important to emphasize that if the above-mentioned assumptions would be realized, every increase in production in sectors for which direct payments are calculated, might potentially increase funds for direct payments.

***Rural development measures***

Rural development policy is the second pillar of the CAP and is becoming important and independent EU policy. Its share in the total CAP budget for Member States is growing, which especially applies to the countries of the latest enlargement, as well as for Rumania and Bulgaria. This is a complex structural policy, which has largely surpassed the frames of the agriculture during its development. Clear rules exist at the EU level on the possible measures; and a precisely defined system of implementation in regard to the financial flow, control and evaluation of the policy impacts. Every member state defines its priorities in the frame of the Rural Development Strategy, and through the Rural Development Program defines mechanisms for implementation of the policy at the regional level (small countries are treated as one region). The European Commission is a significant co-financer of that program (up to 80%) and it conducts strict surveillance over them. Since there were no significant changes in the last 14 years, it is probable that the frame of the current policy will remain unchanged also for the following enlargement.

Rural development policy, under condition from previous EU enlargement, could rely on higher support than the direct payment policy. Estimate is made according to the analysis of accession funds for rural development during the last enlargement of the EU.

*Table C.3: Funds for the rural development policy after the accession for the countries of the last and following enlargement (Rumania and Bulgaria)*

| State | UAA (000 ha) | Population (Mil) | RDP* (€ mil.) | RDP (€/ ha) | RDP (€/capita) |
|---|---|---|---|---|---|
| Cyprus | 144 | 0,71 | 30 | 207 | 42 |
| Check Republic | 3.652 | 10,20 | 257 | 70 | 25 |
| Estonia | 890 | 1,36 | 67 | 76 | 50 |
| Latvia | 2.480 | 3,47 | 137 | 55 | 40 |
| Litvania | 3.487 | 2,34 | 203 | 58 | 87 |
| Hungary | 5.867 | 10,16 | 296 | 50 | 29 |
| Malta | 10 | 0,40 | 11 | 1.083 | 27 |
| Poland | 16.891 | 38,23 | 1.344 | 80 | 35 |
| Slovakia | 2.240 | 5,38 | 186 | 83 | 35 |
| Slovenia | 508 | 2,00 | 100 | 196 | 50 |
| Rumania | 14.819 | 21,80 | 938 | 63 | 43 |
| Bulgaria | 5.325 | 7,87 | 337 | 63 | 43 |
| CEEC 12 | 56.313 | 103,90 | 3.906 | 69 | 38 |
| **MN estimate** | **518** | **0,62** | (20-50) **30** | (40-100) **58** | (32-81) **48** |

* RDP - resources for rural development policy for the first three years after the accession at an annual level, prices 2004.

Based on an analysis of the current enlargement the EU support could be estimated between €20 and 50 million a year. From the pessimistic perspective the support for Montenegro would amount to €30 million on an annual level. The stated amount is provisional, and depends on the total funds available for this policy at the EU level. There are several important issues related to the distribution and implementation of the rural

development policy. It would be important in what way would the funds be divided between individual measures according to the programs of the rural development policy. It is also necessary to provide national co-financing for this amount. This means that the national budget must be prepared, as well as the administrative capacities and potential projects and beneficiaries.

## 1.3 Policy operational plan principles

### 1.3.1 Strategic guidelines of the budgetary support

Next chapter examines projections of the levels of the support according to the presented pillars of support in Document B. Budget planning is of strategic importance and depends on various factors. The first one is the ability of the national budget to finance agricultural policy measures, and the other is the estimate on pre-accession and accession support of the EU. The assumption is that favourable economic conditions and an increase in GDP will occur, which would provide a basis for the stable growth of national funds for agricultural support. A significant contribution should come from donors.

Bearing all this in mind, agricultural policy of Montenegro should follow two operational aims until accession:

- implementation of the concept of sustainable agriculture (refer to Document B);
- administration building and absorption capacity upgrading for policy implementation and adjustment.

In regard to budget planning, these two aims will be fulfilled if Montenegro raised the level of national funds for agriculture in the period before the accession, so as to be able to efficiently absorb EU funds after accession. It would be rational to raise the support above the level of expected co-financing of EU programmes after accession, so as to provide efficient restructuring and successful adjustment.

Since the exact date of accession is not known and because it is not possible to make precise projections on the domestic budget, budget plans are not given at an annual level. Two phases of pre-accession period are provisionally taken. The first phase (determined as "2007-2009 period") will be the introduction and implementation of the reforms of agricultural policy where national budget should be raised at least 50%, with expected donations. The second phase relates to the period between "2010 and 2012", when Montenegro might gain the status of a candidate country, as well as pre-accession support. Significant resources in this phase would be earmarked to support introduction of EU standards in all areas (hygiene, environment, animal health and welfare, IT support and preparation of the sector). In this phase the budget is raised by 50% compared to the previous one. This would mean that the increase should be at least two times compared to the present level. These estimates are only provisional and refer more to guidelines of the policy than about the determination of real amounts, that would depend on various factors, and which are practically impossible to predict. However, this is probably the lower limit of resources necessary for implementation of the Strategy.

Data on 2005 and 2006 relate to the achieved level of budgetary support. It is estimated that in the period 2007-2009 Montenegro will not be able to use the pre-accession support to rural development policy. This should be the period when Montenegro establishes the absorption capacity that would enable efficient usage of pre-accession support. This support will be carried out in the frame of the IPARD program (Instruments of pre-accession assistance for Rural development), for which similar criteria and conditions are expected as those for SAPARD.

*Table C.4: Budgetary projections of the policy items (€ mil.)*

| | 2005 | | 2006 | | 2007-2009 | | 2010-2012 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Support | MN | Dona-tions | MN | Dona-tions | MN | Dona-tions | MN | Dona-tions | Accession | Of which MN |
| Market-price policy | 2,2 | 0 | 1,6 | 0 | 3,7 | | 6,0 | | 10 | 2 |
| Rural development policy | 2,3 | 1 | 4,4 | 1 | 7,5 | 1,0 | 13,9 | **6 | 38 | 8 |
| Public services | *2,0 | 1 | 2,2* | 1 | 3,1 | 1,5 | 4,0 | 2 | 6 | 6 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Other expenses | 2,2 | 1 | 2,5 | 1 | 2,5 | 1,5 | | 1 | 5 | 5 |
| **Total** | **8,7** | **3** | **10,7** | **3** | **16,8** | **4,0** | **23,9** | **9** | **59** | **21** |

* This amount includes approximately € 1 mil. for veterinary measures in the budget frame of the Veterinary Directorate
** EU resources included in the predicted amount of €4 mil.

Taking into consideration the specific features of Montenegrin agriculture and current agricultural policy, market-price policy measures do not have an important share in the actual budget (below 20%). In market-price policy the main entries will be direct payments per ha and per head. The vision for this type of budgetary support is an increase in order to reach a level up to the accession that would enable usage of at least €8 million from the EU funds.

Implementation of the concept of sustainable agriculture imposes the strengthening of the rural development policy, which became important in 2006 already in regard to the budgetary support. This trend should continue until the accession when RD policy should represent two thirds of the agricultural budget. Regarding the restructuring and developmental requirements, it is necessary to increase rural development support to three times the current level until the accession period. This support would be directed to investments and technological innovations in both sectors: agriculture and food processing industry. Significant component of the rural development policy is a set of measures for support to less favoured areas and the introduction and expansion of measures for environment protection (organic agriculture, genetic resources, mountain pastures, agro-forestry) and the village renewal and other broader rural development issues (infrastructure and similar). Montenegro would achieve a modern concept of agricultural policy if rural development policy would take this position and importance in the agricultural budget, whilst market-price policy would only be a corrective for the stabilization of income and market conditions.

A significant part of the budget would be earmarked to institutions and public services in agriculture and rural development. The realization of Strategy objectives requires significant institutional support to agriculture, which is implemented through an efficient system of food safety and comprehensive expert support to speed up the development of agriculture as a whole. The necessary attention should be paid to support agriculture through economic analyses and IT support accomplished through the establishment of adequate registers and information systems.

### 1.3.2 Starting points for drafting individual measures

The basic starting points that should be established when choosing individual measures, if the adjustment of existing or introduction of new ones is in question, are the following:

- to implement operational Strategy objectives listed in the document B;
- actual policy measures and the effect of their implementation;
- adjustment of measures to WTO principles (whether they belong to amber box and distort the market or whether they are in the green box and without limitations);
- adjustment of measures to basic CAP principles, and especially to new and future potential reforms, bearing in mind that CAP is a moving target for new candidates;
- the need to define efficient criteria and procedures for individual measure;
- to apply the principle of gradual introduction of obligatory fulfilment of CAP related requirements like environment protection, food safety and animal welfare;
- existence of the administrative capacities for implementation of the measures;
- existence of the conditions to implement new measures and types of support (understanding of the purpose and aims of the incentives, public acceptance, logistics, etc.)
- respect for the principles of gradualism during the phase-in and phase-out implementation process of measures (since current experiences show that it is not good practice to make great turnovers and leaps in agricultural policy);
- avoiding introduction, especially in the beginning, of too complicated schemes for direct payments.

# 2 OPERATIVE PLAN BY TYPE OF MEASURES

## 2.1 Market price policy

### 2.1.1 General principles

Measures of support to agriculture in the frame of the market-price policy will be realized through:

- Measures for market and income stabilization (foreign trade protection, measures for stabilization of internal market);
- Direct payments per ha in crop production and per head in livestock production.

Joining the integration processes in Montenegro leads to further liberalization of trade and stronger competition in the markets. The improvement of competitiveness and gradual take on of CAP impose the need to reform current and introduce new payment schemes.

Montenegro does not have administrative capacities nor developed mechanisms and conditions to start with the application of direct payments according to some of the existing CAP schemes (Single Farm Payment Scheme and Single Area Payment Scheme).

This is why it is necessary to start with production coupled payments and to create administrative capacities and modify measures from year to year, so that before the accession the state would be completely ready to take on the EU system of decoupled direct payments. It is necessary to start introducing some changes from 2007 in the implementation of current measures, by moving some of the crops related measures (tobacco, potato and cereals) from the input support onto the area payments. This would represent first step in modification of measures towards their full decoupling from production and taking on the existing EU model that implies unique payment per ha no matter what crop is grown.

### 2.1.2 Measures for market and income stabilization

***Foreign-trade measures***

**Current situation and trends:**

Montenegro uses the system of combined customs tariffs (ad valorem and specific tariffs) as the main foreign trade measures, and the Law on foreign trade provides for the implementation of antidumping, countervailing tariffs and protection from excessive imports. Through the process of association with the WTO and in course of negotiations on the Stabilization and Association Agreement, the gradual liberalization of foreign trade in agricultural and food products should continue.

**Objective:**

Providing price stability and fair competition in the domestic market

**Instruments:**

Maintenance of the combined tariff system (*ad valorem* + value per product unit) for sensitive products, in line with opportunities provided by association with the WTO

In case of market distortion, special protection instruments (safeguard measures) should be used. It is necessary to define the procedure for implementation of safeguard measures. Permanent monitoring of prices and incomes is necessary for that purpose.

***Measures for stabilization of the internal market***

**Current situation:**

Montenegro does not implement market intervention instruments in the domestic market. It only provides credit support for the buying of some seasonal market surplus of livestock (as a consumption support).

**Objective:**

To provide stability of market supplies at reasonable prices

**Instruments:**

Measures for stabilization of the internal market do not demand any significant investments, besides the required interventions in case of market distortions. Safety net measures should be used then.

Experience shows that in the future certain interventions will be needed during the collection of seasonal market surpluses of cattle in rural areas, as well as for the collection of other products that have no seasonal character of production. It will be necessary to develop criteria, some kind of temporary measures for times when unplanned surpluses happen. For this purpose it is necessary to earmark at least €0.5 mil. in the following period.

### 2.1.3 Direct Payments in Crop Production

***Direct area payments***

**Current situation:**

System of payments per hectare is not applied

**Objective:**

- To provide stable support to producers for cultivation of agricultural crops through gradual introduction of the CAP like system of payments per ha for major crops this support applies to (arable crops, potato, tobacco);
- Aim that the available resources in crop rotations are optimally used and those areas favourable for crop production are harvested.

**Instruments:**

Montenegro, due to the abovementioned specificity does not have developed crop production, the products of which were provided before the last reform in the EU significant area payments (cereals, oilseeds, etc.). However, there are some cultures that are operated on stable areas and that increase from year to year. These are tobacco, potato, some bread cereals (rye, buckwheat, oats and similar), and lately pulse (bean, green pea, etc.) in crop rotation with the seed potato, as well as some other cultures.

This is why the above-mentioned cultures should have area payments, so that the areas were they are sown could later be also used as the reference size for direct payment schemes.

The first step to implement a system of area payments for crop production is the introduction of a minimal level of necessary registers that would provide for the application of measures in the field. If in the predicted timeline, during 2007, a census on agriculture is conducted and the necessary database on households and their production is provided, so that Montenegro could count on significant support from 2009. Implementation of support per ha for the abovementioned cultures during the second phase of the pre-accession period (2010-2012) would create the conditions to start the single area payment for all utilized arable areas up to the accession.

It is necessary to define the criteria for all measures implemented through this type of support, whether they are old or newer ones, although most of them must comply with the CAP principles in regard to cross compliance of environment, animal welfare and hygienic standards. It is necessary to introduce an Integrated Administration and Control System (IACS), in parallel with the introduction of any new measures.

### 2.1.4 Direct Payments in Livestock Production

***Headage Payment***

**Current situation:**

Payment per head of breeding animals in cattle breeding, sheep breeding and goat breeding beyond the zone of milk collecting for holdings that achieve the minimum of heads set. This measure has some CAP elements, but it is not harmonized with those principles.

**Objective:**

To provide stable support to producers through the gradual introduction of payments per head for meat production (suckler cows and fattening calves), sheep and goat breeding in compliance with CAP principles.

**Instruments:**

Usage of natural resources and pastures is possible only if ruminants are bred. To what extent is individual ruminant species farmed depends on the marketing on the local and broader markets. Breeding of ruminants is a subject matter of separate budget support in the EU. In many old members although the new reform and single payments scheme are introduced, support is still not totally decoupled from production.

After the introduction of animal identification and registration system, conditions would be created to make a transition from payment per head that includes dairy cows, to the system comparable to that applied in the CAP - payment per suckler cow and adult male bovine animals. Central to this, the current required minimum to achieve the right for payment will be lower, which would make the system comprehensive. It is necessary to gradually increase direct payments per head for all three types of cattle during the transition processes.

***Slaughter premium***

**Current state:**

In order to suppress the slaughtering of calves outside the registered slaughtering houses and establish a system of food safety, payments per slaughtered head have already been introduced. This measure is different that one EU applies, because it does not refer to slaughtering of calves but is aimed at other issues concerning food safety.

**Objective:**

- Improvement of the food safety system in the production of meat with slaughtering of cattle in slaughter houses that have regulated veterinary sanitary issues,
- Improvement of the vertical integration in meat production.

**Instruments:**

During the adjustment to the EU system this measure will have a clear aim towards the establishment of follow-up and secure production of food. The current situation was taken in consideration while defining the aims, since due to tradition and unfavourable structural characteristics of the meat producing sector, a very low number of slaughtered cattle is slaughtered in registered slaughtering houses. Regarding the specificity of aims introduced, payment per slaughtered head in the initial phase partly differs from the EU system, since it does not refer to the slaughtering of calves, and partly it will be directed towards the slaughtering industry.

One of the basic conditions for full application of this measure is the implementation of a program of identification and registration of cattle and the capacity of the inspection services to monitor the application of this measure. This measure was introduced in 2006 since the data from the field indicate that a very few number of cattle is slaughtered in registered slaughtering houses, so that this measure could be applied with the existing institutional capacities.

### 2.1.5 Planned frame of the budget for market-price policy

The table below details measures and resources for their implementation. Direct payments in livestock production are already applied and with the introduction of the already described principles the amount would increase from year to year, as it was the case with direct payments in crop production, which would follow later in time.

*Table C.5: Budgetary projections for measures of the market-price policy (€ mil.)*

| Measure | 2005 | 2006 | 2007-09 | 2010-12 | Accession | MN |
|---|---|---|---|---|---|---|
| Direct payments per ha | | | 0,7 | 1,3 | 2,5 | 0,6 |
| Direct payments in livestock production | 2,2 | 1,6 | 2,5 | 4,2 | 7,0 | 0,9 |
| Measures for market stabilization | | | 0,5 | 0,5 | 0,5 | 0,5 |
| **Total** | **2,2*** | **1,6** | **3,7** | **6,0** | **10,0** | **2,0** |

* Although in 2006 compared to 2005 there was an increase in the budget for 27%, support to ruminant breeding (headage payment) was modified and from market-price policy transferred to rural development policy.

## 2.2 Rural development policy

### 2.2.1 General principles

The new EU rural development policy looks at rural development from a much broader aspect, since measures defined within this policy pay equal attention and support to the three most important elements of sustainability:

- Economic development through the first pillar of rural development, i.e. measures to increase competitiveness;
- Environment protection, through the second pillar for sustainable resource management; and
- Social aspects of sustainability, through the third pillar directed towards creating better living standards for the rural population and broad-based economic activities in rural areas and so call Leader approach and projects.

Numerous measures of the current agriculture budget possess already a number of elements of the rural development policy of the EU.

This document, based on the key principles of the EU rural development policy, may be the basis for the preparation of a Strategy of Rural Development in Montenegro that would according to the EU rules elaborate in details all aspects important for harmonised policy in this field. In the next three years period of time (2007-2009) it will be necessary to prepare such Strategy, and in parallel, to use donations and national budget to introduce also individual measures for which there are realistic prerequisites. This especially applies to investments support, improvement in the quality of products and creation of better living standards in rural areas. This three year period should be used for the adjustment and gradual elimination of measures not in accordance with the EU policy. At the same time, an institutional implementation capacity would be created, so that in 2010 programming might follow, when EU funds for pre-accession could be used (IPARD).

Through gradual strengthening of the administrative capacities and reform of the Ministry, it is also necessary to form a Unit for rural development and to introduce monitoring and evaluation of the effects of the rural development projects.

Central to this, support to rural development will be directed through three axes:

- Improvement of competitiveness;
- Sustainable resource management; and
- Programs of development of rural areas that includes leader projects.

### 2.2.2 Improvement of competitiveness

One of the most important challenges in the following period will be the development of a sustainable agriculture that would be competitive in the domestic and broader markets.

**Objective:**

To provide policy, instruments and an implementation system for their application that would provide restructuring of the sector, further technological progress and become competitive in a broader market. This would generate incomes for the rural population.

**Instruments:**

To raise competitiveness it is necessary to include several measures that are predicted within the policy of rural development of the EU. The selection of measures, their design and determination of criteria to gain rights to support are adjusted to the needs and priorities of Montenegrin agriculture.

- ***Support to investments in primary agriculture:***
  - Reconstruction of the existing ones and plantation of the new permanent crops, with special emphasis on olive production, viticulture and certain species of continental fruits;
  - Establishment of new greenhouses;
  - Investments in mechanization and equipment;
  - Investments in reconstruction of the existing and establishment of new operations, especially farm buildings in livestock production.

Bearing in mind the current level of development, the low level of technological equipment in the agriculture and still difficult access to credit lines, this measure package is supposed to be one of the most important in the following period. According to projections in table 6, from the 8 planned measures for support to investments; most resources will be generated in agriculture, somewhere around one third of the total support.

One of the first assignments during the introduction of this support is the development of appropriated criteria for implementation of available resources. Support to investments is to be made in 2006 but this support is linked to donor programs, that have their own criteria, and the resources of the Montenegrin agricultural budget are only a supplement to these investments, if the condition was fulfilled that these programs are accepted by donors.

- ***Support to restructuring of the food processing industry***
  - Removal of the bottleneck in production, especially in the slaughtering industry;
  - Investments in capacities that use domestic raw material;
  - Investments in refrigerating operations and maintenance of products in a fresh state, which would prolong the season and provide better marketing of distinct seasonal production;
  - Investments in specific smaller units for processing of traditional and high quality niche products (dairy products, processing of fruits).

Sector analysis (Document A) indicates the need to improve the competitiveness level of the food processing industry and to strengthen its integration with the primary sector. This is why one of the primary assignments in the pre-accession period is technological improvement and the establishment of a marketing position, as well as the removal of the bottleneck from production for further development, and creating conditions to export products into EU countries. Support will be directed in accordance with the principles of the rural development policy in four suggested ways with possible modifications. One of the main priorities for support is creating awareness that domestic agriculture must be developed, and that domestic raw material must be used.

Criteria for support should be elaborated together with the definition of individual measures, but one of the basics principles for investment support should be fulfilment of hygienic and other EU standards, that would provide future normal functioning with and in the single market.

- ***Introduction of standards and improvement in the quality of production and processing of the agricultural products***

- Harmonisation with EU standards (good practice in agriculture, good production practice, environmental standards, animal welfare standards, etc.);
- Implementation of standards in order to improve the quality of products (milk payment system, classification of carcass of cattle on the slaughtering line, quality schemes for fruits and vegetables);
- Promotion of the quality of products (participation at international and domestic fairs, local exhibitions, media);
- Support to the introduction of a system of quality product scheme (protection of geographic origin and geographic labelling, traditional technologies, trade marks, and the like).

During the European integration processes the issue of the introduction of standards and improvement in the quality of products in the broadest sense will represent one of the serious challenges. The lack of application of international standards represents for many of Montenegrin companies a serious constraint to the export of their products. The agricultural budget for 2006 introduces new measure for support to the introduction of standards; which will represent a further step on the way to adjust to the requirement of the EU.

In frame of this program it is necessary to conduct a basic training programme, especially when primary agriculture standards are in question.

During the implementation of the proposed measures (standards, quality schemes, promotion, protection) principles defined by EU regulations will be applied, which imply financial support of a specific limited amount for a defined period of time.

- ***Program of better valorisation of agricultural land***
  - Support for purchasing agricultural land;
  - Agrarian operations (meliorations, irrigation, fertilization).

One of the weak points of earlier and current agricultural policy is the land reform issue. Land is a limited and unrenewable resource, and Montenegro has a scarce quantity of arable land. This is why along with the new Law on agricultural land, for the next period, the better valorisation of agricultural land is aimed, through different support to investments and improvement of the quality of soil.

After the census on agriculture is conducted and minimum register has been established it is realistic to start this measure in 2008. Based on the new law on agricultural land, that should be implemented by then; the purchase of land for professional use in agriculture will be supported, with the aim of enlarging the farms and to surpass structural constraints. The other significant mode is improvement of quality through meliorations, irrigation and fertilization. In this preparation period it is necessary to develop the necessary criteria for the implementation of this measure.

- ***Vertical integration of agriculture and food processing industry and improvement of the market infrastructure***

The lack of the vertical integration in the production and marketing chain of food, and especially between agriculture and food processing industry, was emphasized as a serious limiting factor for faster development. In the frame of this measure, support to development of market infrastructure will be continued and intensified, that would contribute to better vertical integration. The building and renovation of green and cattle markets will be supported through this measure, as well as village collection centres and stations, centres for collection and storage of milk, etc. This set of measures might be implemented without any significant preparations in the proceeding years, using experiences of donor programs. In later phases, before accession, it is necessary to create conditions for the introduction of follow up programs in linking food processing and agriculture.

- ***Program of support to young farmers when taking over households and engaging in agriculture as their basic occupation***

This program is carried out in the EU with support in the form of irredeemable donation for those who decide to engage in agriculture as their basic business or who take over a farm from their ancestors, with the fulfilment of certain conditions (age below 40 years etc.). Regarding the unfavourable age structure of the active labour population in Montenegrin agriculture, this type of support could be important and should find its place

between incentive measures. The period 2007-2009 will be one of preparation, after which implementation of this measure could begin.

- ***Business integrations and formation of producer organisations***

Business integrations are inevitable to surmount the lack of the economies of scale in Montenegrin agriculture. Notwithstanding the importance of vertical integration, horizontal links of many sectors also play a very important role, in order to valorise market resources, cheaper supply with inputs, better protection and representation of the interests of individual sectors. Very important segment is special focus to encourage small producers to the market, which should be subject to budget support. In 2007, criteria must be developed in accordance with the EU rural policy, and from 2008 support to common access of producer organisations on market and marketing of their products should be implemented.

- ***Better education of the agricultural producers***

Education is also one of the policy priorities. Unfortunately, the opinion that agricultural production does not demand special qualifications is still present, but the fact is that the specificity of agriculture demands from the producer a broad array of knowledge on numerous technologies as well as minimum knowledge of the economy and management.

This program will be directed not only to regular high school and college but additional education of producers who already practice agriculture.

The program should be realized through training and education of producers, those who have no knowledge on agriculture at all, above all. In the form of winter schools, courses, seminars, producers should also be educated about the application of new technologies in production, for the introduction of adequate standards, for submitting requests for direct payments, apply for projects and so on. It is necessary to provide certificates for successful trainings. This training can be implemented by expert services, university professors or international experts.

**Planned frame of the budget for the first axis - competitiveness**

Based on the previously described measures the following table projects supports for these measures. The projection of the amount shows that support for investments is the most important priority to raise competitiveness, not neglecting amounts for other measures as well.

*Table C.6: Budgetary projections for the first axis of rural development - competitiveness (€ mil.)*

| Measure | 2006 | 2007-09 | 2010-12 | Accession | MN |
|---|---|---|---|---|---|
| Support to investments in agriculture | 1,13 | 1,70 | 2,20 | 5,6 | 1,0 |
| Restructuring of food processing industry | 1,35 | 1,30 | 1,80 | 5,2 | 1,0 |
| Quality improvement program | 0,25 | 0,40 | 0,55 | 0,8 | |
| Land reform program | 0,12 | 0,50 | 0,75 | 1,5 | 0,6 |
| Vertical integration and strengthening of market infrastructure | - | 0,35 | 0,40 | 0,8 | 0,3 |
| Young farmers program | - | - | 0,30 | 0,7 | 0,2 |
| Producer organisations in agriculture | - | 0,10 | 0,20 | 0,6 | 0,1 |
| Vocational education | - | 0,15 | 0,20 | 0,4 | |
| **National support** | **2,85** | **4,50** | **6,40** | | 3,2 |
| ***Donor support*** | ***1,00*** | ***1,50*** | ***2,40*** | | |
| **Total** | ***3,85*** | ***6,00*** | ***8,80*** | ***15,6*** | ***3,2*** |

### 2.2.3 Sustainable resource management

Bearing in mind the commitment of Montenegro to be an ecological state, its strategic documents, and especially the development of sustainable agriculture defined in the Strategy; sustainable management of resources will be a very important activity of the Ministry on the implementation of the integral program of rural development. Measures of this axis of rural development in future should be complied with a number of EU regulations that relate to the protection of the environment and sustainable use of natural resources.

Measures predicted within this strategy go beyond the agriculture domain; they include also agro-forestry management.

**Objective:**

Providing policy, implementation system and instruments that will safeguard agricultural resources

**Instruments:**

- ***Support to development of less favoured areas***

Montenegro, although small in size, has a much diversified natural conditions for agricultural production. The greater part of the agricultural land is found in the mountainous part of the country and on slopes, which makes tillage difficult and requires more investments per yield unit in comparison to lower terrains. Also, the regional patterns of development are very disparate (employment rate, level of GDP and other economic indicators).

Bearing all the above-mentioned in mind, the first assignment for full implementation of the EU model is development of a classification system that would enable determination of what area belongs to the less favoured ones. The implementation of this model should start after the implementation of the Strategy. In parallel and in accordance with the CAP current support for ruminants will still be applied in less favoured areas.

After determining criteria for LFA, the implementation of the Strategy of Rural Development and establishment of administrative capacity, agricultural land in use will represent the basis for support to less favoured areas. To determine the size of compensatory allowances, grassland and arable land will be valorised differently than pastures.

- ***Agro-environmental measures***

The program has been organized in three different groups:

***Development of organic and other environmentally friendly productions***

Production in accordance with the principles of sustainable development and with the maximum protection of the environment is the priority of Montenegrin agriculture. Since all necessary institutional requirements have been set up (adopted legislative, certification body formed), it is expected that development of this production will be significant, since there is a growing demand for tourist sector, and there are appropriate conditions for development of organic agriculture in majority unpolluted areas).

Significant support will be directed to incentives for this type of production. However, financial support should not be the only driver to this production, but the market or otherwise development in unrealistic circumstances would occur and in collision with strong competition this concept could be seriously put to question.

In the first phase of the pre-accession period (2007-2009) the support will be directed towards the adjustments of technologies to the demands of organic production, the introduction of necessary standards, certification and marketing of products of organic production.

In parallel with the creation of institutional requirements and administrative procedures for the introduction of the direct payments per ha within market-price policy, administrative conditions will be created that in the second pre-accession phase (2010-2012) also support to organic agriculture in the form of area payments will be implemented.

In frame of this measure package also other types of production will be supported (integral fruit and vegetable production, production with respect to the welfare of animals etc).

***Preservation and utilization of genetic resources***

Montenegro on a small area disposes of significant genetic resources in crop and livestock production. Not only preservation but sustainable use of these resources represents more and more of a challenge. Scientific research institutions should define a detailed program of preservation, complied with international principles, and through the agricultural budget the necessary support will be provided for those programs, ex-situ and in-situ preservation. The second type (in-situ) bears special importance, i.e. preservation and reproduction of an adequate number of units that enable prevention of the extinction of a number of rare varieties of agricultural plants, as well as species of domestic animals.

Subject to support should also be programming and research work related to genetic resources, payments per head for keeping of the autochthonous animal breeds, as well as

payments per ha for planting of the autochthonous species of agricultural plants. More resources should be provided directly to producers.

The existing support is necessary to be complied with the Program of preservation and use of genetic resources, after it has been implemented. It is essential that the program will be elaborated during 2007 and implemented from 2008.

***Use of mountain pastures program***

This program should be implemented to achieve better valorisation of the mountain pastures in numerous plateaus of Montenegro. Production in these conditions is featured as traditional and could be transformed to organic without significant investments. The products (especially dairy ones) could be valorised through tourism development. The enlivening of the mountain "katun" represents a precondition for the development of certain forms of tourism in those areas.

This program will be realized through support for pasture management (number of ruminants that are moved to mountain pastures may represent a base for support); investments in minimal infrastructure for better valorisation of pastures (electric fences, water resources). During 2007 and 2008 the necessary institutional capacities should be upgraded with the implementation of this measure during 2009.

- ***Agro-forestry***

The combination of aims imposed on agriculture and forestry is becoming more and more important. Implementation of these aims and synergies may be conducted through the program of agro-forestry. This program should be of great value for Montenegro, especially on the coast, since in significant part of it, now overgrown with low vegetation or bushes; new plantation of olives threes should be grown. This would enable multiply effects: olive fruit production will be increased, which is one of the strategic issues in Montenegro, almost deserted areas in that way will be put to use, and the olive plantations themselves are a significant barriers to fires in the summer period, and would provide a more aesthetic landscape to that area.

It is necessary that during 2007 and 2008 criteria be developed and that during 2009 implementation of the program starts. The support should be oriented to planting olive trees, with the development and implementation of similar criteria as for the plantation of permanent crops within the frame of the first axis - improvement of competitiveness.

**Planned frame of the budget for the second axis for rural development**

Measures of the second axis demand much more institutional preparation for the complete adjustments to EU principles, especially in regard to the numerous requirements and regulations related to the role of agriculture in the environmental issues. This was borne in mind during the development of projects for the individual measures, amongst which the most important should be support to less favoured areas.

*Table C.7: Budgetary projections of measures of the second axis of rural development - sustainable resource management (€ mil.)*

| Measure | 2006 | 2007-09 | 2010-12 | Accession | MN |
|---|---|---|---|---|---|
| Development of less favoured areas | 0,75 | 1,4 | 2,8 | 8,75 | 1,4 |
| Agro-environmental measures | | | | | |
| - Organic and other environment friendly agriculture | 0,12 | 0,6 | 0,9 | 3,10 | 0,5 |
| - Genetic resources preservation | 0,03 | 0,5 | 0,8 | 1,20 | 0,4 |
| - Program of use of mountain pastures | - | 0,4 | 0,8 | 1,40 | 0,5 |
| Agro-forestry | | 0,3 | 0,7 | 2,10 | 0,4 |
| **National support** | **0,90** | **3,2** | **6,0** | | **3,2** |
| **Donor support** | **0,50** | **0,5** | **1,2** | | |
| **Total** | **1,40** | **3,7** | **7,2** | **16,55** | **3,2** |

### 2.2.4 Village renewal and development program

In the EU the rural development policy in broader sense is gaining on importance. The new policy reform brings more measures and support to rural population in general instead of pure agriculture. Therefore, the implementation of the European concept of rural policy, places one important challenge in front of Montenegro, creating conditions and providing support to village renewal and development.

**Objective:**

- To provide living standards in rural areas that would make them attractive for living;
- To diversify the activities and incomes in rural areas.

In comparison to the other two axes, only more complex projects will be supported. Two conditions need to be fulfilled there:

- Introduction of transparent and efficient procedures for tenders, approval and monitoring; and
- Qualification of beneficiaries for project preparation and application to the tenders.

These two conditions will be fulfilled through implementation of the proposed projects included in the Strategy (Chapter 3 of this document) and through the current activities for capacity building, including donor support, especially one form the EU.

**Instruments:**

- ***Building of the rural infrastructure***

Rural infrastructure is the key pre-condition for rural development and at the same time provides a better quality of life to rural areas. Due to the depopulation and small number of people living in numerous areas of Montenegro, support to infrastructure is of a significant importance. The main support should be oriented to the different traffic infrastructure. The next priority is water managing systems (including rural sewage, as well as watering sources). The program should include also electrification of several "katuns" (mountain pastures). This program should include investments for general purposes (rural schools, culture buildings and other infrastructural buildings in rural areas). Besides the improvement of general conditions for better living, agricultural producers should also have better market access.

- ***Diversification of the economic activities in rural areas***

Support to diversification of economic activities in rural areas should get more importance. For this purpose significant resources should be earmarked. The aim is to provide the rural population the additional sources of income, which will generate added value to rural areas, and provide rapid development of agriculture (agro and other types of tourism, production of packaging, small equipment, gear, souvenirs and other home made products).

Diversification is implemented through two activities: providing income form other sources for family members not engaged in agriculture, and starting up different types of businesses in rural areas in the form of small enterprises.

- ***Agro and rural tourism***

Diversification of economic activities, that should generate significant income to rural population, will be especially related to special forms of tourism (agro and rural). Tourism has a long-term perspective in Montenegro, since there are numerous natural prerequisites. Individual measures will be provided from the agro-budget, along with other programs and in parallel, the local population will be able to apply for projects to future donors, and especially IPARD programs.

- ***Cultural heritage***

In the frame of the program of support to villages, a special place will be taken by the preservation of cultural heritage. Rural areas in Montenegro, due to history, tradition,

multiculturalism and multyfunctionality, possess a rich and diversified culture, which should be nourished and preserved through this activity.

**Planed frame of the budget for third axis of rural development**

Bearing in mind the other priorities and existing state of qualifications for these type of program, in the pre-accession period, no significant support will be provided from the national budget, except for traffic infrastructure. This is the policy which gains on the importance before and after accession to EU. However, during the pre-accession period, using IPARD program when Montenegro becomes candidate for full membership to EU, preparations for the utilization of this kind of support will be worked upon.

*Table C.8: Budgetary projections of the third axis of rural areas - Village development program (€ mil.)*

| Measure | 2006 | 2007-09 | 2010-12 | Accession | MN |
|---|---|---|---|---|---|
| Rural infrastructure | 0,60 | 0,60 | 0,75 | 1,20 | 0,70 |
| Agro and rural tourism | - | 0,10 | 0,25 | 2,50 | 0,40 |
| Income diversification | - | 0,20 | 0,35 | 1,65 | 0,30 |
| Culture heritage | 0,02 | 0,10 | 0,15 | 0,50 | 0,20 |
| ***National support*** | **0,62** | **1,00** | **1,50** | | **1,60** |
| ***Donor support*** | ***0,50*** | ***0,50*** | ***2,40*** | | |
| **Total** | **1,12** | **1,50** | **3,90** | **5,85** | **1,60** |

### 2.2.5 Leader approach

Besides the above mentioned three axis of rural development, the policy of the EU also comprises so called leader axis. However, this is more about the approach and methodology during the application of projects than measures to rural development. The project must be related to certain territories, and must have a bottom-up approach, a public-private partnership must be effectuated locally, and projects must have a multi-sector approach. It is also important that the projects stem form Local Action Groups. Thus, of special importance is the training of the local groups for preparation of the projects. This approach will take its place in the future agricultural policy in regard to expert training for application of the projects of the previous three axis of rural development and application to donors.

### 2.2.6 Planned budget for rural development policy

The following table shows projections of budget with individual axes of rural development. Besides the stated estimates on the importance of individual support and measures, it can be seen from the table that in the transition - pre-accession period the most important measure will be improvement of competitiveness. This will strengthen the national sector and prepare it for the common EU market, so that the accession would be harmless for domestic production (so called soft landing).

*Table C.9: Budgetary projections of major directions of rural development (€ mil.)*

| | 2005 | | 2006 | | 2007-09 | | 2010-12 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Measure** | **MN** | **Don.** | **MN** | **Don.** | **MN** | **Don.** | **MN** | **Don.** | **Accession** | **MN** |
| Competitiveness improvement | 1,55 | 1,0 | 2,85 | 1,0 | 4,5 | 1,5 | 6,4 | 2,4 | 15,60 | 3,1 |
| Sustainable resource management | 0,91 | | 0,90 | | 3,2 | | 6,0 | 1,2 | 16,55 | 3,3 |
| Village development and leader projects | 0,53 | 0,5 | 0,62 | 0.5 | 0,8 | 1,0 | 1,5 | 2,4 | 5,85 | 1,6 |
| **Total** | **2,99** | **1,5** | **4,37** | **1.5** | **8,7** | **2,5** | **13,9** | **6,0** | **38,00** | **8,0** |

## 2.3 General and public services in agriculture

### 2.3.1 General principles

Intellectual and institutional support represents an inevitable pillar in the implementation of the sustainable agriculture. This support is especially important in the EU integration process. General EU adjustment activities may not be carried out just by the administration itself. The process must involve various services that will have a significant share of obligations and responsibilities. Numerous future challenges will impose the need to improve public-private partnership initiatives and to include also the private sector in the integration processes.

### 2.3.2 Measures

The most important programmes and support within the public services for agriculture are the following:

***Food safety***

- Veterinary issues
- Phytosanitary issues, including production of seed and planting material and similar.
- Other programs - strengthening of laboratories for food safety

The modern concept of food safety production moves the monitor in the chain towards the produces. Montenegro will continue to strengthen the overall system of food safety: implementation of the necessary inspection surveillance, through public-private partnership, application of legislative in accordance with the EU legislative, further education of staff responsible for this area.

***Expert services***

- Animal breeding control and service.
- Extension service in crop production.
- Other programs (education and research).

The financing of this type of public services in agriculture at the current level is necessary and therefore an increase is projected. However, the condition for support must be precise, the procedure must be clear and beneficiaries must fulfil adequate requirements. An annual working program must be offered, with scope of activities elaborated in detail, dynamics, financial aspects and expected results. A detailed annual report will serve to verify the results and should be implemented by the Government. Services must provide support to farmers, and they will also be responsible for the education of farmers to use direct support in accordance with EU regulations.

***Analytic-information support, administrative capacities***

- Economic analysis for implementation of agricultural policy.
- Registers and information systems in agriculture.
- Functions and implementation of Payment Agency.
- Capacity building of the legal department in the Ministry.
- Establishment of a Unit for rural development.

Work on the Strategy has shown additional weaknesses in statistics. Current agricultural statistics are only partly comparable to standards in developed countries. In the country there is no adequate agricultural economic analysis to support the decision making system in the agricultural policy.

An important step to adjust to EU requirements and to negotiate with the donors and in the EU accession process is harmonization of statistics and development of comparable information-analytic support to agriculture. The human capacities should be prepared for continuous and systematic work on agricultural policy analysis for both the national and

international community. With the establishment of the minimum IT support, the development of new functions of the Ministry could be initiated (Unit for rural development, Agency for Payment).

It is necessary that in the list of future projects (Chapter 3 of the document) a special place is given to the public services support which demands also significant budget resources. This should be also an important aim of the program of donor support.

***Other programs***

Of importance place will be international cooperation and membership in international organizations, training of staff for deficit vocations and the like. Later in time, within this measure, institutional support to fisheries will be financed.

### 2.3.3 Planed budget for support to expert and public services in agriculture

As well as with the other part of agricultural policy, it is predicted that gradual increase in support to institutional capacity building would be provided. During the transition period it is expected that significant support to the realization of the projects predicted in this Strategy will be provided. In comparison with market-price and rural development policy, only resources from national budget might be used for these measures after the accession.

*Table C.10: Budgetary projections of public services in agriculture (€ mil.)*

| Measure | 2006 | 2007-09 | 2010-12 | Accession | MN |
|---|---|---|---|---|---|
| Food safety | 1,30 | 1,60 | 2,00 | 3,20 | 3,20 |
| Expert services | 0,48 | 0,60 | 0,90 | 1,10 | 1,10 |
| Analytic - information support | 0,21 | 0,50 | 0,70 | 0,90 | 0,90 |
| Other programs | 0,25 | 0,40 | 0,40 | 0,80 | 0,80 |
| **National support** | **2,24** | **3,10** | **4,00** | **6,00** | **6,00** |
| ***Donor support*** | ***1,00*** | ***1,50*** | ***2,00*** | | |
| **Total** | **3,24** | **4,60** | **6,00** | **6,00** | **6,00** |

# 3 PROJECTS FOR EU ADJUSTMENTS AND STRATEGY IMPLEMENTATION

## 3.1 Legislative harmonisation

Legislative harmonisation and building institutional capacities represent preconditions to the EU integration of any country. Agriculture, including food safety, represents the most extensive part of the EU legislation. The planning of the harmonization of national legislative is a complex and multi tasks governmental activity. In the frame of the Action Plan of the EU Partnership Montenegro makes steps for adjustment, but there is a need for a particular State Program for adjustment to EU in the field of agriculture. A list of the key system laws is proposed in the Platform (document A). In some areas, as veterinary, plant protection, seed and planting material, legislative harmonization has already begun. This document is not proposing the detailed elaboration of sub-laws that have to come out from individual system laws. This must be the subject of detailed analysis and development by expert services and part of the future programmes.

***Law on agriculture and rural development***

The objective for developing and the adoption of this law is the need to increase the level of compulsoriness and constancy of agricultural policy. Through transformation of strategic objectives into the form of a law, this law („the small constitution of agriculture") would enable realization of objectives and measures of this Strategy and would regulate the reforms and the path towards the European integration process. Moreover, this law would provide a basis for further establishment of legal infrastructure in agriculture through development of the other laws listed.

***Law on agricultural land***

The objective of development of this law is to ensure the use and disposal of agricultural land as an unrenewable resource, in compliance with the practice and experiences of developed countries. It is particularly important to regulate, in terms of law, the prevention of further loss of agricultural land, fragmentation and further compartmentalization as a result of inheritance, to regulate the trade in land and to define the policy of use of land.

***Law on food safety***

This law should regulate the issues of food safety and to provide the basis for harmonization with many EU directives in this sector. The primary task of this law is to integrate all measures and institutions that define the role of the state in food safety. Significant attention should be paid to distribution of competence among state organs in charge of some important food safety issues (Veterinary, Phytosanitary, and Health Inspectorates).

***Law on livestock breeding***

The law should set the principles of livestock breeding on a new basis that shall be fully coordinated with zootechnical regulations in the EU. To that end, the most important segment is legislation on selection and control in livestock production. The law shall be the basis for the drafting of appropriate bylaws for specific aspects of livestock production.

***Law on animal feed***

Analogous to Law on food safety, this law should regulate all the issues related to the production, marketing and keeping of feed in compliance with EU directives.

***Law on cooperatives***

In the current situation when the agriculture cooperative movement is quite weak, it is necessary to adopt the new Law on agricultural cooperatives together with the Program of development of cooperative network, which would, abiding by the principles of the International Cooperative Movement provide legal preconditions for a more massive

establishing of cooperatives of a new type in agricultural production. The Law should lay down a simple procedure for establishing, management and closing of cooperatives.

*Table C.11: Action plan for the key agricultural laws*

| Law | Adoption until | Implementation latest at | EU legislative | Responsible institution |
|---|---|---|---|---|
| Law on agriculture and rural development | June 2007. | Jan. 2008. | CAP, CMO and rural development policy | MoA |
| Law on agricultural land | Dec. 2007. | June 2008. | National responsibility | MoA |
| Law on food safety | March 2007. | Jan 2008. | Food safety | MoA, Min. of health |
| Law on livestock breeding | Dec. 2007. | Dec 2008. | Zootechnic | MoA |
| Law on animal feed | June 2008. | Jan. 2009. | Animal feed | MoA |
| Law on cooperatives | March 2008. | March 2009. | National responsibility | MoA, Union of cooperatives |
| Phytosanitary laws | Dec. 2006. | June 2007. | Phytosanitary issues | MoA |

## 3.2 Institutions building and upgrading

### 3.2.1 General principles

The total capacity building represents one of the most important challenges to integration processes and if this issue is not seriously taken, administrative and institutional limitations might slow down integration processes.

Montenegro has already made some important steps in the institutional reforms, so organizationally for the moment there are neither serious obstacles nor radical reform of the majority of existing institutions. The Veterinary service is already transformed; the Phytosanitary service is entering the process, while expert services (extension and animal breeding service) are organized on a new basis. A similar situation exists with laboratories. The most radical reforms should be taken in the Ministry of agriculture and this should be one of the priorities in the following period.

The introduction of EU principles is relatively expensive and complex, but it entails the modernization of the state as important side effect. A functional public system is not only an expense; it is a substantial base for the achievement of the objectives of food safety, environment protection and other important elements of sustainable development. Efficient governmental apparatus will be a sign that Montenegro is being modernized and in this regard that it becomes a developed country, which must be the final target of reforms and adjustments to EU standards.

### 3.2.2 Reform of the Ministry of Agriculture, Forestry and Water Management is unavoidable

The basic part of the reform is reorganisation of the Ministry of Agriculture, Forestry and Water Management. Reorganisation of the Ministry must support reform of the policy and adjustments to EU requirements. Reform of the Ministry shall include the following:

- Reorganization of organizational units in line with the main functions of the Ministry, where the following departments would be established:
  - For market-price policy,
  - For rural development,
  - For food safety,
  - For implementation of measures,
  - For information support and control.
- The establishment of a unit for producing economic analyses in agriculture, agricultural policy and monitoring effects of measures of the current agricultural policy.
- Under the current administration, the functions of the future Payment agency should be developed to implement support schemes and rural development (e.g. IPARD, post-

accession funds). Regarding RD schemes, the structure and distribution responsibilities should already be oriented towards what is requested to set up for pre-accession RD funds. That agency should be established as a unit of the Ministry of Agriculture, as well as the Integrated Administration and Control System (IACS), and other registries and computerized databases for pursuing the policy (gradual building of a central multipurpose information system):

- Animal identification and registration system;
- Alpha-numeric system of identification of agricultural parcels;
- System for collecting applications and requirements for different forms of support;
- Relevant registers of farms, land and animals;
- Integrated control system;
- Introduction of mandatory registers of producers (viticulture, olive-growing etc.);
- System for collecting and dissemination of market information;
- Farm Accountancy Data Network (FADN).

- On the basis of the Law on Plant Health Protection, the body in charge of phytosanitary issues shall be established,
- Construction of infrastructure for implementation of food safety policy. This determines the whole set of tasks, of which the following should be highlighted:
  - Definition and implementation of national competent authorities in the veterinary and phytosanitary sectors, quality of seed and planting material and animal nutrition,
  - Adequate border control system and internal market control system, laboratory controls, controls of facilities.
- Strengthening of human resources of the Ministry – increased scope of work during the accession process should also be transferred to other public institutions and organizations of the state, and the private sector should be included. However, proper functioning of the model of sustainable agriculture and rural areas requires far more employees. In the meantime, the structure of human resources should be strengthened, since realization of the Strategy is not possible without a stronger institutional infrastructure of the Ministry.
- Modernization of activities of the Ministry through:
  - A program of regular training of staff,
  - Introduction of knowledge of foreign languages and computer skills as minimum criteria for employment of new staff,
  - Introduction of modern management techniques,
  - Introduction of the system of monitoring results of work.

In addition to strengthening of the capacity of the executive authorities, the law-making authorities should be strengthened for more rapid association with European integration processes as well as for the purpose of reaching the general consensus on the future development of agriculture. For that purpose, a special parliamentary board for agriculture should be established.

### 3.2.3 Strategy requires broader institutional reforms

***Expert services in agriculture and food safety***

The programme of further development and modernization of activities of the Service for Livestock Breeding and Extension Service in Plant Production should be developed, which would include:

- The training programme for employees,
- Modernization of cooperation and work with agricultural producers,
- System of monitoring of outcome of services,
- Program of extension of activities and new employment strategies.

***Research***

Conditions should be established so the Biotechnical Institute (Institute of Agriculture) in its name and in its main research program is the creator of the future development of agriculture and rural areas. Researches in the field of agriculture, food processing, rural development and agricultural policy that can be used in practice and that are aimed at resolving development issues, with special emphasis on economic analysis and rural development should be strengthened. The developmental needs of agriculture should be the basic criterion in recruiting new staff for the Institute.

Reorganization and modernization of activities of the Institute should be supported and its international cooperation strengthened.

***Education***

The modern system of secondary education should train young people to be able to professionally engage in agriculture. The practice, inherited from the former system, where education programs are adjusted to employees and not the true needs of agriculture should be abandoned as soon as possible.

Reforms in agriculture require from newly established college education in the frame of Biotechnical Institute, with two education profiles: plant production studies and livestock production studies, to produce staff that shall be able to contribute to faster and sustainable development, first of all through setting up their own business in the field of agriculture and food production in general, and who would be trained to follow and implement modern trends in production, processing, management and marketing.

***Cooperatives and other forms of organization in agriculture and agro-industry***

The concept of sustainable agriculture requires modern cooperatives. That shall be the main factor in connecting the small, fragmented agricultural holdings. A stronger linked and organized approach in the procurement of inputs, use of mechanization, marketing and advertising of products, etc. shall also mean a strengthening of competitiveness.

A stronger linkage of producers based on shared interests is necessary for the successful functioning of agriculture, increase in competitiveness, joint participation in the market, joint promotion of products and many other activities. The current organizations of a general type, established on the territorial principles, should be induced to transformation into associations based on shared interests (in plant production – associations by separate crops, in livestock production – associations by species and breed). Connecting entities of the food processing industry on the basis of shared interest and stronger links with distributors and the product sale chain is also very important for competitiveness of Montenegro's production.

***Statistics***

Ensuring consistent data in compliance with European standards, and processing thereof has an important role in the implementation of the Strategy. In addition to the information system that the Ministry of Agriculture is to develop, adequate national statistics are an important element of modernization and harmonisation.

The current situation is unfavourable and analyses that were made during the preparations of the Strategy point to great discrepancy between statistical data and expert opinion on the situation. What is to be done in order to have access to valid and reliable data on agricultural resources (land, livestock figures) holdings, production volume?

Thorough reforms in statistics of price, land and livestock breeding are necessary. Moreover, it is necessary to develop the statistics of food balances and economic account for agriculture.

If a quality basis for the future agricultural policy and many other needs is desired, in addition to the development of national statistics and its coordination with the EU principles, it is necessary to **make a national census of agriculture** as soon as possible. It is of particular importance for getting an insight into the agricultural structure in Montenegro.

For the purpose of maximizing the effects of the census, thorough preparations in the following two directions are necessary:

- Development of detailed questionnaires and proper training for inventory takers,
- Detailed and timely preparations of the population for the purpose of achieving a positive attitude towards the census.

The census shall be the basis for changes in official statistics, which would consequently be able to meet the domestic demands as well as those relating to delivery of data to international organizations and institutions (FAO, EU etc.).

## 3.3 Project realization

Strategy of development of Montenegrin agriculture provides frame for further restructuring and modernisation of the state administration that should represent a basis for integration to the EU. To achieve this goal, Montenegro has to take on and implement new legislation, reform of current and establishment of new institutions.

The third document, and the Strategy itself, end up with a list of future activities and larger projects that are supposed to support implementation of the Strategy and sustainable development of agriculture.

The project can be divided into four groups.

The first group is related to the legislation (refer to Chapter 3.1) and reform of institutions, where special emphasis should be placed, besides the State program, on reorganization of the Ministry of Agriculture, Forestry and Water Management, that must go through administrative and capacity building. One of them is establishment of the Payment Agency, before the accession, that will be responsible for donations that demand complex and efficient institution that surpasses usual methods and work models in these areas.

The second large group of projects refers to the reform of agricultural policy. This group of projects should also be supported with strategic documents and programs that enable multi-annual and harmonized agricultural policy. The major assignment is programming of the measures for rural development policy.

It is essential to provide analytic support and informational system for implementation of agricultural policy in contemporary manner. This is the requirement for the adjustments, but also the basis for efficient negotiations at the EU level. The deficit in this area was pointed out in several places in the Strategy, so this is why it deserves a special attention. The first area is harmonization of agricultural statistics, and the second the implemented analytic systems, like economic balance for agriculture, that enables permanent insight in the situation within agriculture, while this represents basis for the rural development indicators. It is also necessary to establish permanent report system on situation in agriculture, as well as estimates on effects of agricultural policy and the implementation of the Strategy itself.

Special attention should be paid to foundation of adjusted and comprehensive administrative-information systems. They will be a foundation for analytic component of the implementation of the agricultural policy, but their primary function is regular annual control of the implementation of measures of agricultural policy in the field. Direct payments also bear special importance. Central system is linked to Integrated System of Administration and Control (IACS), which is one of the preconditions to generate resources from EU funds after the accession.

*Table C.12: Plan of additional projects proposed in the Strategy*

| Project title/activities | Project initiation | Project finalisation | Expenses, 000 € | Share of intern. support | Responsible institution |
|---|---|---|---|---|---|
| **Legislation and institutions, public services** | | | | | |
| Action plan for reorganisation of institutions | Dec 2006. | April 2007. | 15 | YES, 33% | MoA |
| State program of legislation harmonisation in agriculture with the EU requirements. | June 2007. | Dec.2007. | 33 | YES, 50% | MoA |
| Reorganisation of MoA | Jan. 2008. | Dec. 2009 | 40 | YES, 50% | MoA |
| Payment Agency | Jan. 2008. | Dec. 2009 | 950 | YES, 30% | MoA |
| Implementation of reorganisation of institutions in agriculture | Jan. 2007. | Dec. 2011 | 300 | YES, 25% | MoA |
| **Policy reform** | | | | | |
| Strategy of Rural development | Jan. 2007. | Dec. 2007. | 60 | YES, 40% | MoA |
| Rural development program (National policy 2009-2013) | Jan. 2008. | Dec. 2008. | 200 | YES, 40% | MoA |
| Operative program of agricultural policy 2009-2013 | Sept. 2007. | March 2008. | 40 | YES, 50% | MoA |
| Program of preservation and utilization of genetic resources in agriculture | Sept. 2007. | March 2008. | 30 | YES, 50% | MoA |
| Strategy of development of cooperatives | March 2008. | March 2009. | 20 | NO | MoA, Union of cooperatives |
| Program of development of expert services | Jan. 2008. | Sept. 2008. | 20 | NO | MoA, Biotech. inst. |
| Research and educational strategy in agriculture and food safety | Nov. 2007. | Sept. 2008. | 40 | YES, 33 % | MoA, Biotech. inst. |
| **Analitic-infomation systems and supports** | | | | | |
| Agriculture census | Sept. 2007. | March 2008. | 1200 | YES, 80% | MoA, MONSTAT |
| Harmonization of production and price agricultural statistics | Jan. 2007. | Dec. 2008. | 200 | YES, 50% | MoA, MONSTAT |
| Food balances | Nov. 2006. | March 2007. | 15 | YES, 80% | MoA |
| Green reports (annual sector monitoring) | March 2007. | Sept. 2007. | 40 | YES, 40% | MoA |
| Sector analysis for major sectors<br>a) agriculture<br>b) processing industry | June 2007. | June 2008. | 80 | YES, 30% | MoA |
| Economic account for agriculture and other basics tools for agro-political analysis | Jan. 2007. | July 2008. | 50 | YES, 70% | MoA |
| **Administrative information basics** | | | | | |
| IT system concept in agriculture | Nov. 2006. | July 2007 | 120 | YES, 60% | MoA |
| Agrarian marketing–information system in agriculture – AMIS | Jan. 2006. | Dec. 2006. | 200 | DA, 70% | MoA, Services |
| Register of major cultures:<br>- vineyards,<br>- olive threes,<br>- citrus | Sept. 2007. | March 2008. | 300 | DA, 20% | MoA, Directorate for Real Estate |
| Register of agricultural holdings | June 2008. | Dec. 2010. | 150 | DA, 20% | MoA |
| Other registers in agriculture | Jan. 2008. | Dec. 2010. | 500 | DA, 60% | MoA |
| Implemented IACS | March 2008. | Dec. 2010. | 300 | DA, 60% | MoA |